ADC
AOC.
COMMODORE

SERVICE MANUAL

1950
MULTISCAN
Color Monitor

JUNE, 1990 **PN-314036-01**

CM 314

PRECAUTIONS AND NOTICES

1 SAFETY PRECAUTIONS

1. Observe all caution and safety related notes located inside the display cabinet.

2. Operation of these displays outside the cabinet or with the cover removed, involves a shock hazard from the display power supplies. Work on the display should not be attempted by anyone who is not thoroughly familiar with precautions necessary when working on high voltage equipment.

3. Do not install, remove or handle the picture tube in any manner unless shatter-proof goggles are worn. People not so equipped should be kept away while handling picture tube. Keep picture tube away from the body while handling.

4. The picture tube is constructed to limit X-RAY radiation to 0.5 mR/HR. For continued protection, use the recommended replacement tube only, and adjust the voltages so that the designated maximum rating at the anode will not be exceeded.

5. Before returning a serviced display to the customer, a thorough safety test must be performed to verify that the display is safe to operate without danger or shock. Always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as screwheads. Test must be performed to verify that the display is safe to operate without danger or shock. Always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as screwheads. Test method for current leakage described as follows.

   (a) Plug the AC line cord directly into rated AC outlet (do not use a line isolation transformer during this check).

   (b) Use an AC voltameter having 5000 ohms per volt or more sensitivity in the following manner.Connect a 1500 ohms 10 Watt resistor, paralleled by a 0.15mfd, AC type capacitor between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts simultaneously. Measure the AC voltage across the combination of 1500 ohms resistor and 0.15mfd capacitor.

   (c) Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part.

   (d) Voltage measured must not exceed 0.5 volts RMS. This corresponds to 0.35 milliamp AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

2 PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety visual ihspections and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Before replacing any of these components. read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-RAY radiation or other hazards.

3 SERVICE NOTES

1. When replacing parts or circuit boards, clamp the lead wires around terminals before soldering.

2. When replacing a high wattage resistor (more than 1/2W of metal oxide film resistor) in circuit board, keep the resistor about 10mm (1/2 in) away from circuit board.

3. Keep wires away from high voltage or high temperature components.

4. Keep wires in their original position so as to reduce interference.

4 HIGH VOLTAGE WARNING

Operation of monitor outside of cabinet or with back removed involves a shock hazard. Work on these models should only be performed by those who are thoroughly familiar with precautions necessary when working on high voltage equipment.

Exercise care when servicing this chassis with power applied. Many B plus and high voltage terminals are exposed which, if carelessly contacted, can cause serious shock or result in damage to the chassis. Maintain interconnecting ground lead connections between chassis, picture tube dag when operating chassis.

Certain HV failures can increase X-ray radiation. Monitor should not be operated with HV levels exceeding the specified rating for their chassis type. The maximum operating HV specified for the chassis used in this monitor is

24 KV ± 1KV

with a line voltagte of 120V AC. Higher voltage may also increase possibility of failure in HV supply.

It is important to maintain specified values of all components in the horizontal and high voltage circuits and anywhere else in the monitor that could cause a rise in high voltage or operating supply voltages. No changes should be made to the original design of the monitor. Components shown in the shaded areas on the schematic should be replaced with exact factory replacement parts. The use of unauthorized substitute parts may create a shock, fire or other hazard.

To determine the presence of high voltage, use an accurate, high impedance, HV meter connected between second anode lead and CRT dag grounding device. When servicing the High Voltage System, remove static charge from it by connecting a 10K ohm resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord disconnected from AC power outlet).

The picture tube used in this monitor employs integral implosion protection. Replace with tube of the same type number for continued safety. Do not lift picture tube by the neck. Handle the picture tube only and after discharging the high voltage completely.

H.V. Protector

The high Voltage protector control 1 (VR2002) and control 2 (VR2003) are permanently sealed at factory.

Do not attempt to readjust.

SPECIFICATIONS

A. Electrical Description

CRT: 14'' (13V) 90 Deflection, 29mm neck, 0.31mm Dot pitch, Non-glare screen.

Input signal

Video: TTL Level Positive Analog 0.6Vp-p/75 OHM Positive.

Sync: Separate sync. TTL Level
Horizontal sync. Positive/Negative
Vertical sync. Positive/Negative
Composite sync. TTL Level Positive/Negative
Composite sync. on Green Video
(sync 0.3Vp-p Negative, Video 0.6Vp-p Positive)

Display colors

TTL Input: 8/16/64 colors
Analog Input: Unlimited colors

Synchronization

Horizontal: 15.5KHz to 37KHz
Vertical: 50 to 80Hz (Non Interlace)

Resolution

Horizontal: 800 dots
Vertical: 600 lines

Video band width: 30MHz (−3dB)

Misconvergence: Center max 0.3mm
Corner max 0.5mm

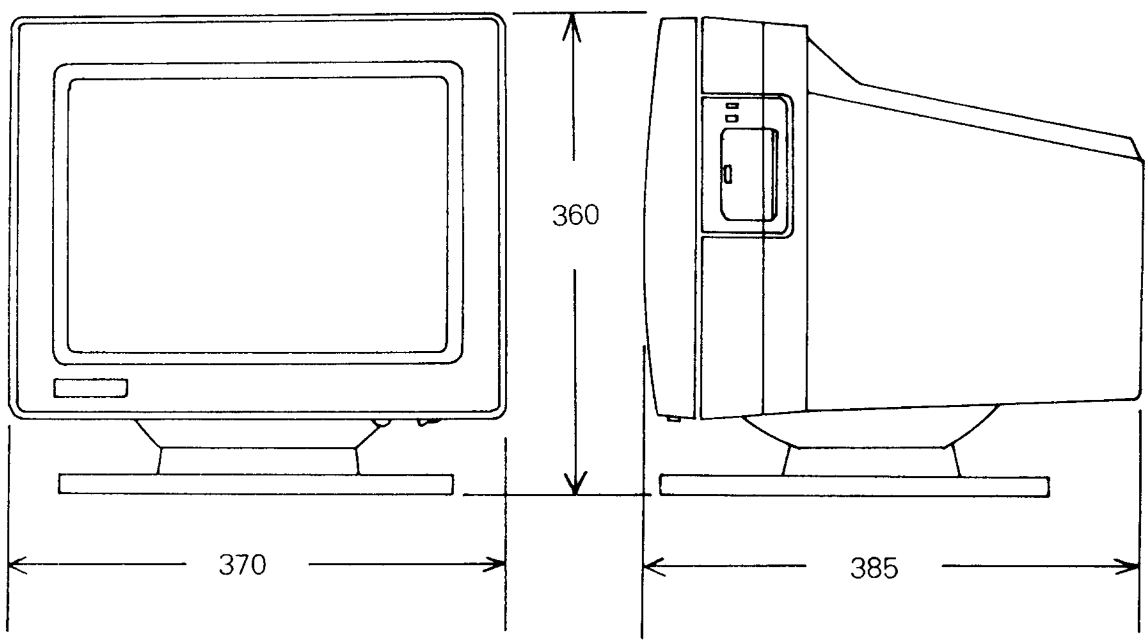
Power supply: AC120VAC or 220VAC (50/60Hz)

Power consumption: 80W

NOTE: The above specifications are subject to change without notice for further improvement

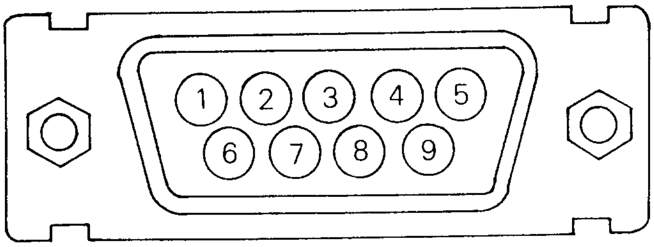
B. Mechanical Description

1. Cabinet:	Molded plastic cabinet with attachable tilt swivel base.	
2. Dimension:	Monitor 370 (W) x 360 (H) x 385 (D) mm Carton 456 (W) x 452 (H) x 464 (D) mm	
3. Weight:	13Kg (Net)	15Kg (Gross)
4. Controls		
	Rear controls:	TTL/ANAGLOG switch
	Side controls:	Brightness control Contrast control V. Size control V. Position control V. Hold control H. Position control Text Switch H. Width Switch
	Front controls:	Power Switch Multidisplay control (color switch)



5. Input signal terminal: 9 PIN D-sub connector (male)

PIN ASSIGNMENTS AND SIGNAL LEVELS



PIN ASSIGNMENT OF IBM GRAPHICS ADAPTER

IBM ADAPTERS PIN-ASSIGNMENT	COLOR GRAPHICS TTL 16 COLORS	ENHANCED GRAPHICS TTL 64/16 COLORS	PROFESSIONAL GRAPHICS ANALOG
1	GROUND	GROUND	*RED
2	GROUND	SECONDARY RED	*GREEN
3	RED	PRIMARY RED	*BLUE
4	GREEN	PRIMARY GREEN	COMPOSITE SYNC
5	BLUE	PRIMARY BLUE	MODE CONTROL
6	INTENSITY	SECONDARY GREEN /INTENSITY	RED GROUND
7	NON-CONNECTION	SECONDARY BLUE	GREEN GROUND
8	HORIZONTAL SYNC.	HORIZONTAL SYNC.	BLUE GROUND
9	VERTICAL SYNC.	VERTICAL SYNC.	GROUND

PIN ASSIGNMENT OF OTHER COMPUTERS

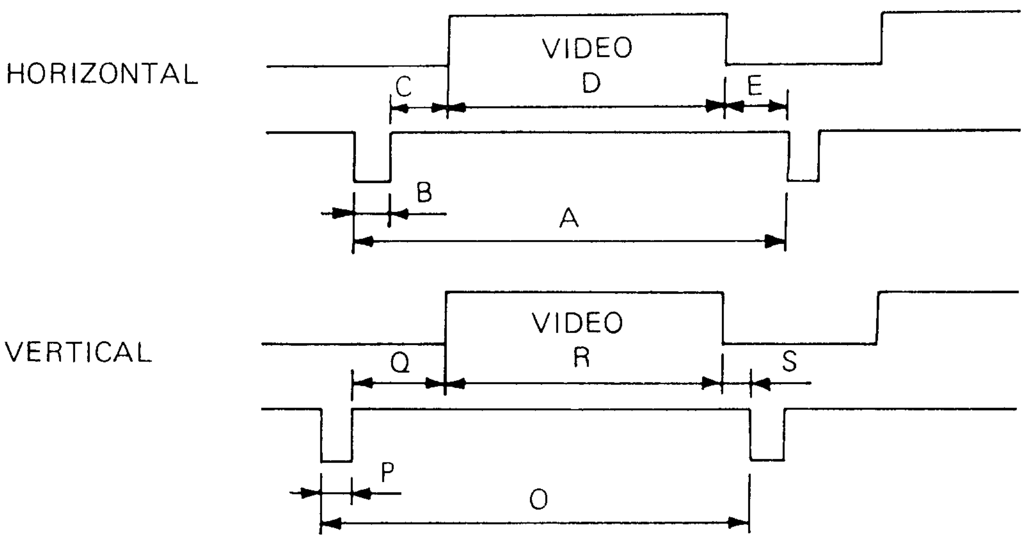
<table>
<tr><th rowspan="2">SIGNAL
PIN ASSIGNMENT</th><th colspan="3">TTL</th><th colspan="3">ANALOG</th></tr>
<tr><th>8 COLORS</th><th>16 COLORS</th><th>64 COLORS</th><th>SEPARATE SYNC.</th><th>COMPOSITE SYNC.</th><th>SYNC. ON GREEN</th></tr>
<tr><td>1</td><td colspan="3">GROUND</td><td colspan="3">*RED</td></tr>
<tr><td>2</td><td colspan="2">—</td><td>SECONDARY RED</td><td colspan="2">*GREEN</td><td>GREEN @H/V SYNC</td></tr>
<tr><td>3</td><td colspan="2">RED</td><td>PRIMARY RED</td><td colspan="3">*BLUE</td></tr>
<tr><td>4</td><td colspan="2">GREEN</td><td>PRIMARY GREEN</td><td>H.SYNC.</td><td>H/V SYNC.</td><td>—</td></tr>
<tr><td>5</td><td colspan="2">BLUE</td><td>PRIMARY BLUE</td><td>V.SYNC.</td><td colspan="2">—</td></tr>
<tr><td>6</td><td>—</td><td>INTENSITY</td><td>SECONDARY GREEN</td><td colspan="3"></td></tr>
<tr><td>7</td><td colspan="2">—</td><td>SECONDARY BLUE</td><td colspan="3" rowspan="3">GROUND</td></tr>
<tr><td>8</td><td colspan="3">H. SYNC./H/V SYNC.</td></tr>
<tr><td>9</td><td colspan="3">V. SYNC</td></tr>
</table>

" —" means GROUND or NON-CONNECTION

SIGNAL LEVEL
All signal levels, except for those listed below, are TTL.
" * " means 0.6 Vp-p (VIDEO)
" @ " means 0.6 Vp-p (VIDEO), 0.3 Vp-p (SYNC)

TIMING CHART

A. SEPARATE SYNC.



Sync. Polarity: Positive/Negative

	fH	EXAMPLE TIMING			REMARKS
		15.75KHz	24.83KHz	30.1KHz	
Horizontal	A(us)	63.5	40.28	33.2	64.5 to 28.6 us (15.5 to 35KHz)
	B(us)	5.08	3.04	3.43	2 to 10us
	C (us)	7.62	2.80	2.86	2 to 8us
	D (us)	46.3	32.4	25.76	20 TO 48US *
	E (us)	4.4	2.04	1.14	1 to 6us and E/(B+C) = 0.1 TO 0.45 Range 1: E/(B+C) = 0.3 TO 0.5
Vertical	O (ms)	16.6	17.72	17.66	16.1 to 17.8ms (56 to 62Hz)
	P (ms)	0.26	0.32	0.26	0.05 to 0.7ms
	Q (ms)	1.6	1.01	0.73	0.08 to 2.2ms
	R (ms)	13.84	16.11	16.6	12 to 17ms and (O−R) = 0.8 to 4.0
	S (ms)	0.9	0.28	0.066	0 to 1.6ms and Q = {(O−R)−0.8}/2± 0.2

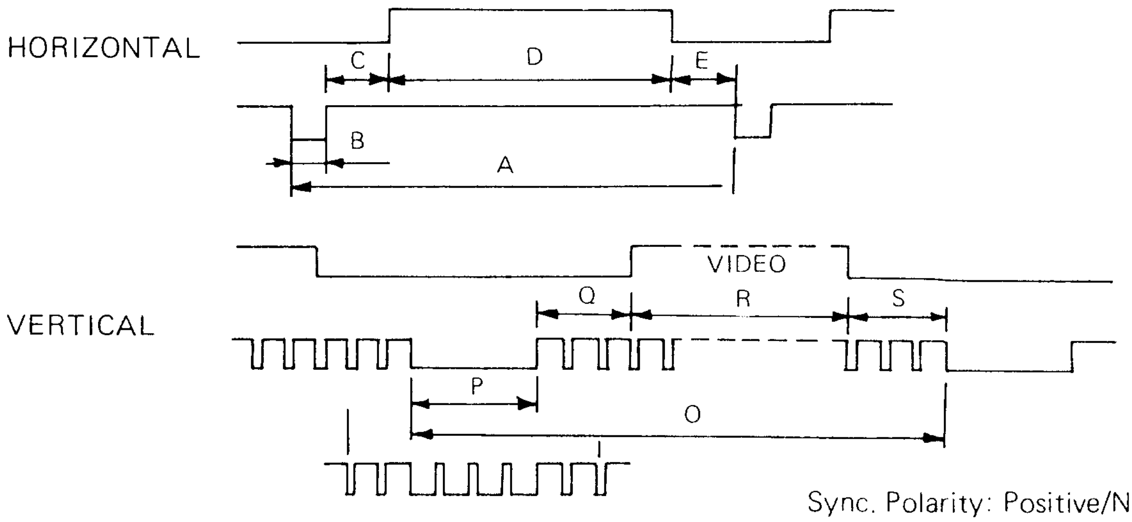
Range 1: A = 64.5 to 50us
Range 2: A = 50 to 37us
Range 3: A = 37 to 28.6us

* Both SEPARATE SYNC. & COMPOSITE SYNC.
Range 1: D/A = 0.7 − 0.75
Range 2: D/A = 0.8 − 0.85
Range 3: D/A = 0.75 − 0.8

PRESET TIMING

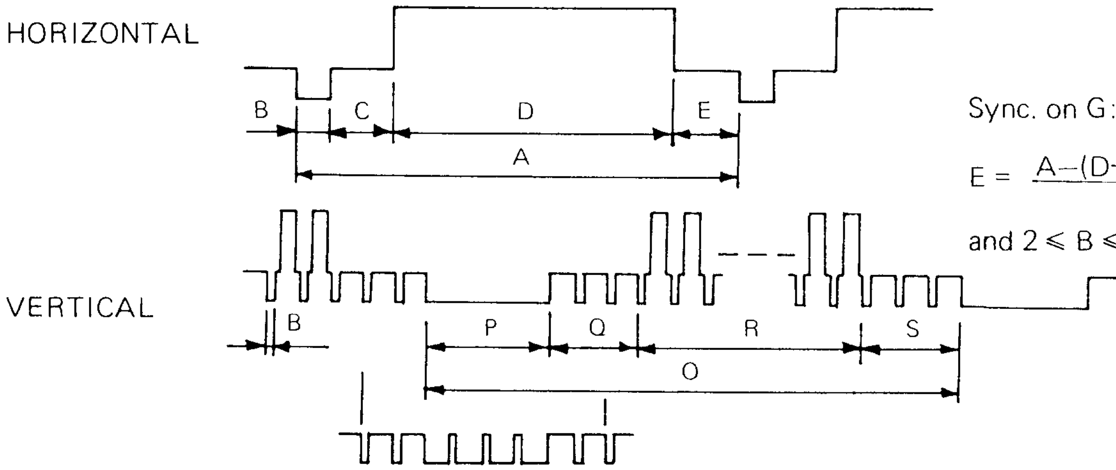
	fH	15.8KHz	22KHz	30.5KHz		fH	15.8KHz	22KHz	30.5KHz
Horizontal	A(us)	63	45.5	33	Vertical	O (ms)	16.4	16.68	16.6
	B(us)	4.2	4.9	4.5		P (ms)	0.075	0.6	0.07
	C (us)	7.2	1.6	2.8		Q (ms)	1.525	0.08	2.12
	D (us)	45	39	25.6		R (ms)	12.6	16	13.05
	E (us)	6.6	0	0.1		S (ms)	2.2	0	1.36

B. COMPOSITE SYNC.



Sync. Polarity: Positive/Negative
Equalizing Pulse is available.

Composite Sync. & Video (Sync. on Green)



Sync. on G:

$$E = \frac{A-(D+B) \pm (5-B)}{2}$$

and $2 \leqslant B \leqslant 5\ \mu S$

Sync. Polarity: Negative
Equalizing Pulse is available.

	fH	EXAMPLE TIMING			REMARKS
		15.98KHZ	25.5KHz	31.5KHz	
Horizontal	A (us)	62.6	39.2	31.75	64.5 to 28.6us (15.5 to 35KHz)
	B (us)	5.41	2.51	2.06	2 to 10us
	C (us)	8.0	3.30	3.62	3.3 to 8us
	D (us)	44.7	32.14	24.52	20 to 48us *
	E (us)	4.47	1.25	1.56	1 to 6us and E/(B+C) = 0.1 TO 0.45 Range 1:E/(B+C)= 0.3 to 0.5@
Vertical	O (ms)	16.35	16.67	16.67	16.1 to 17.8ms (56 to 62Hz)
	P (ms)	0.19	0.12	0.19	0.05 to 0.19ms
	Q (ms)	1.82	0.80	1.02	0.8 to 2.2ms
	R (ms)	13.47	15.63	15.24	12 to 17ms and (O–R) = 0.8 to 4.0
	S (ms)	0.87	0.12	0.22	0 to 1.6ms and Q = $\{(O-R) - 0.8\}/2\pm0.2$

GENERAL

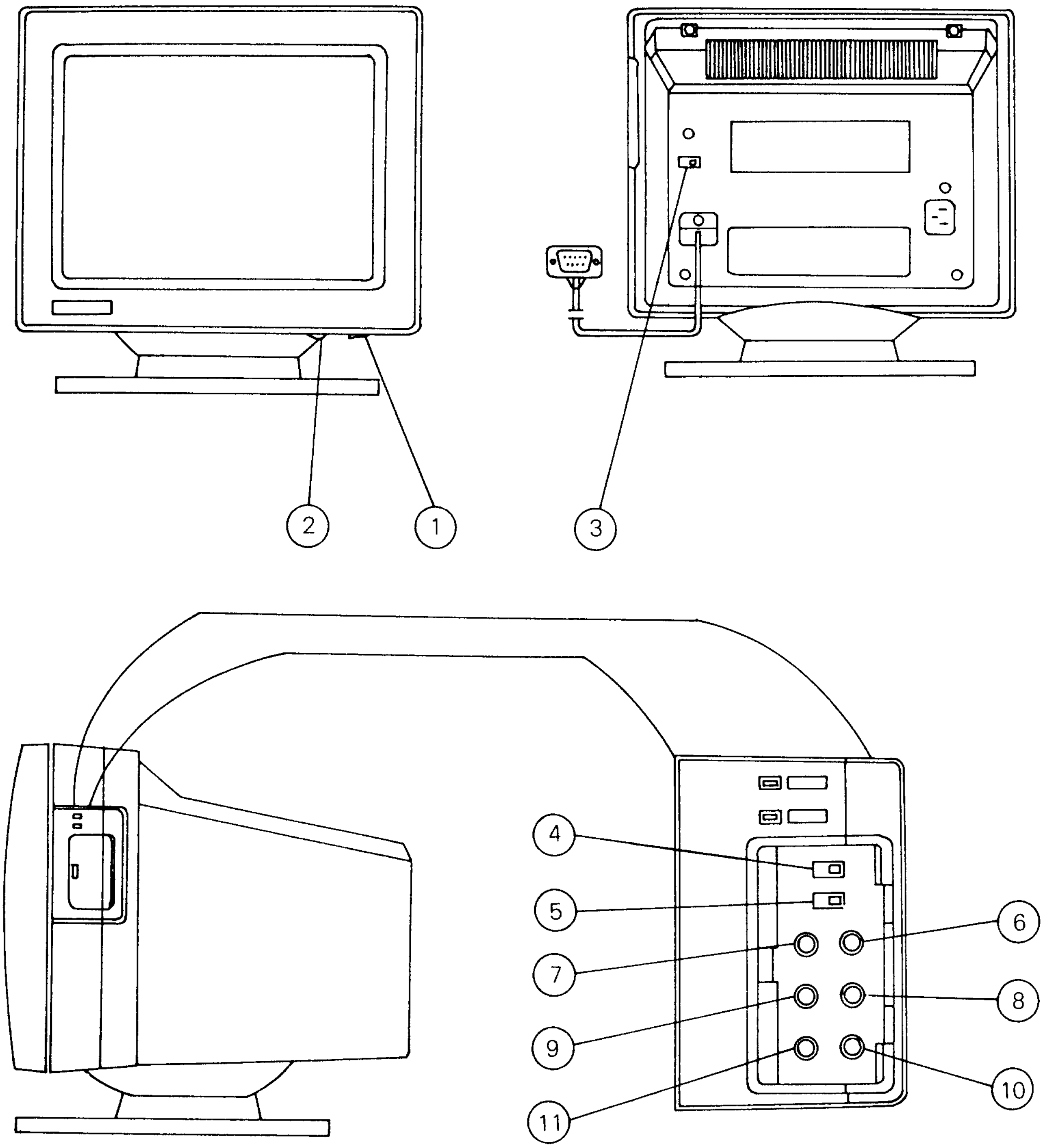
CM-314 The Intelligent Monitor is a high resolution color monitor that automatically adjusts to graphics board scanning frequencies from 15.5KHz to 37KHz.

CM-314 gives IBM PC, PC/XT, and PC/AT users crisp text and vivid color graphics displays when used with any of the four IBM graphics adapters (the CGA, EGA, PGA or VGA)

CM-314 can also be used with other IBM compatible graphics adapters to provide IBM users with the widest range of color monitor compatibility and capability available in the market place.

FEATURES

* CM-314 automatically scans all frequencies between 15.5KHz and 37KHz.
* CM-314 is compatible with the IBM PC, PC/XT, PC/AT and look alikes.
* CM-314 is compatible with the IBM Professional Graphics Adapter, the IBM Enhanced Graphics Adapter, the IBM Video Graphics Array, the IBM Multi color Graphics Array and other IBM compatible graphics adapters.
* CM-314 wide compatibility makes it possible to upgrade boards or software without purchasing a new monitor.
* CM-314 has a maximum horizontal resolution of 800 dots and a maximum vertical resolution of 600 lines for superior clarity of display.
* CM-314 offers both TTL and ANALOG signal inputs, and in the ANALOG mode can display an unlimited palette of colors depending on the graphics board and software being used.
* CM-314 features a TEXT SWITCH (TTL mode only) with a choice of four colors (Green, Amber, White with Blue Background and white) displaying word processing, spread sheets, databases or other software in crisp alpha numeric text on a dark-bulb black background.
* CM-314 has a 14 inch diagonal display and a large, 13 inch viewing area.


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11

1. POWER SWITCH

Used to turn the POWER ON or OFF. When power is ON, the power indicator is lit.

2. COLOR SWITCH

When TEXT switch is OFF. There are three color configuration (8/16/64 colors) necessary when using non-IBM compatible graphics adapters can be set using the switch. Refer to instructions accompanying the graphics adapter being used for information on how many colors the adapter can display.

When TEXT switch is ON. the text of the display will appear in one color (Green, Amber, White with Blue Background and normal white) Selected by this switch.

NOTE: This switch should be set correctly in relation to the input signal of the graphics adapter being used. Refer to instructions accompanying the graphics adapter for information on the input signal and refer to No 4 below.

3. TTL/ANALOG SWITCH

Used to select an input Video Signal-either TTL or Analog-of the graphics adapter.

It is important to determine whether the input signal of the graphics adapter being used is Analog or TTL prior to connecting the adapter with your personal computer.

Refer to instructions accompanying the graphics adapter for information on the input signal.

4. TEXT SWITCH

This switch controls the text mode of CM-314 Refer to No 2 color switch for full information on using the TEXT switch.

NOTE: The text switch and the color switch work only in the TTL mode.

5. H. WIDTH SWITCH

Adjust this switch for the horizontal size of display preferred. When this switch is ON, the width of the display size changes.

NOTE: When the horizontal scanning freguency is over 20KHz H. WIDTH cannot be adjusted.

6. BRIGHT CONTROL

Used to adjust the picture brightness of the screen.

7. CONTRAST CONTROL

Adjust the display to the contrast preferred by the user.

8. V. SIZE CONTROL

Turn this knob for the proper vertical size of the display. Turn the knob clockwise for a larger display; turn it counterclockwise for a smaller display

9. V. POSITION CONTROL

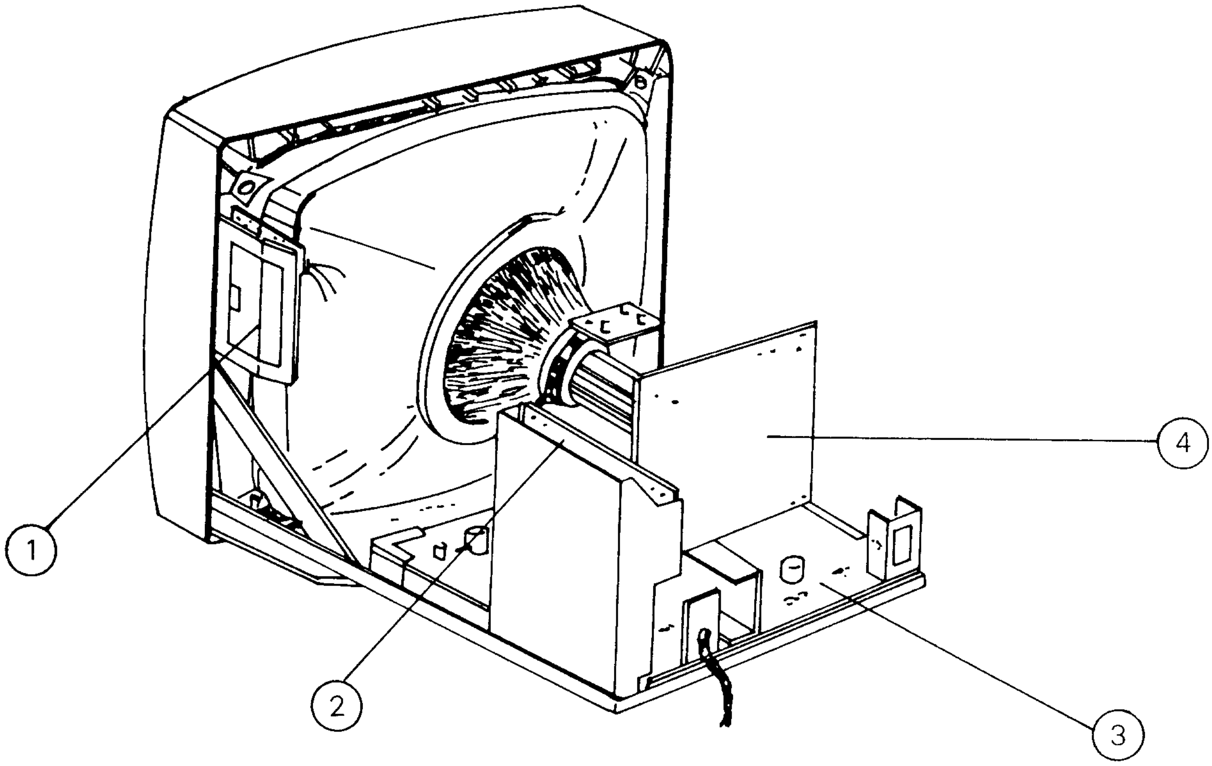
Turn this knob for the proper vertical position of the display. Turn the knob clockwise for a higher display position; Turn it counterclockwise for a lower display position

10. V. HOLD

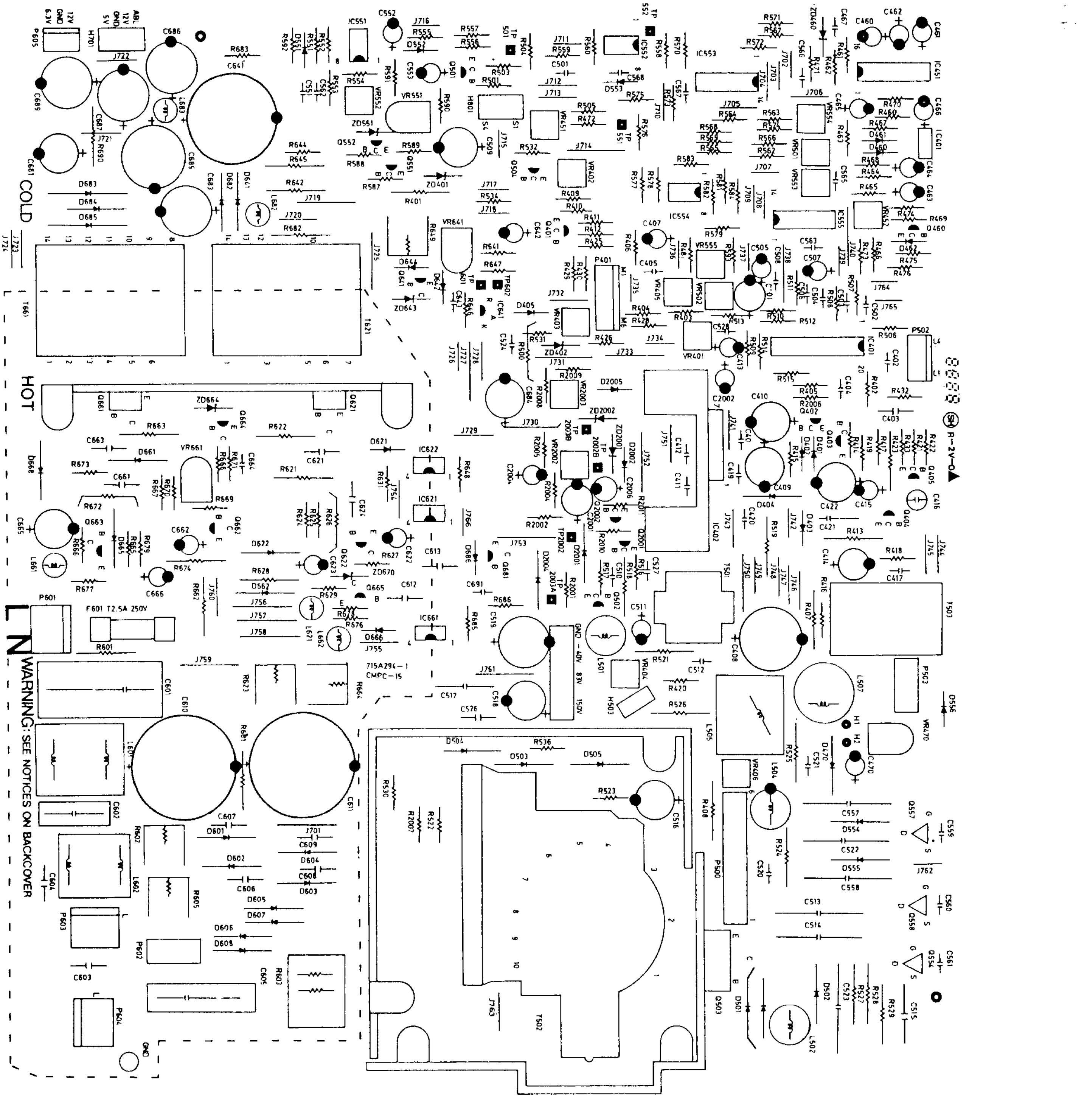
Adjust the vertical stability of the display.

11. H. POSITION CONTROL

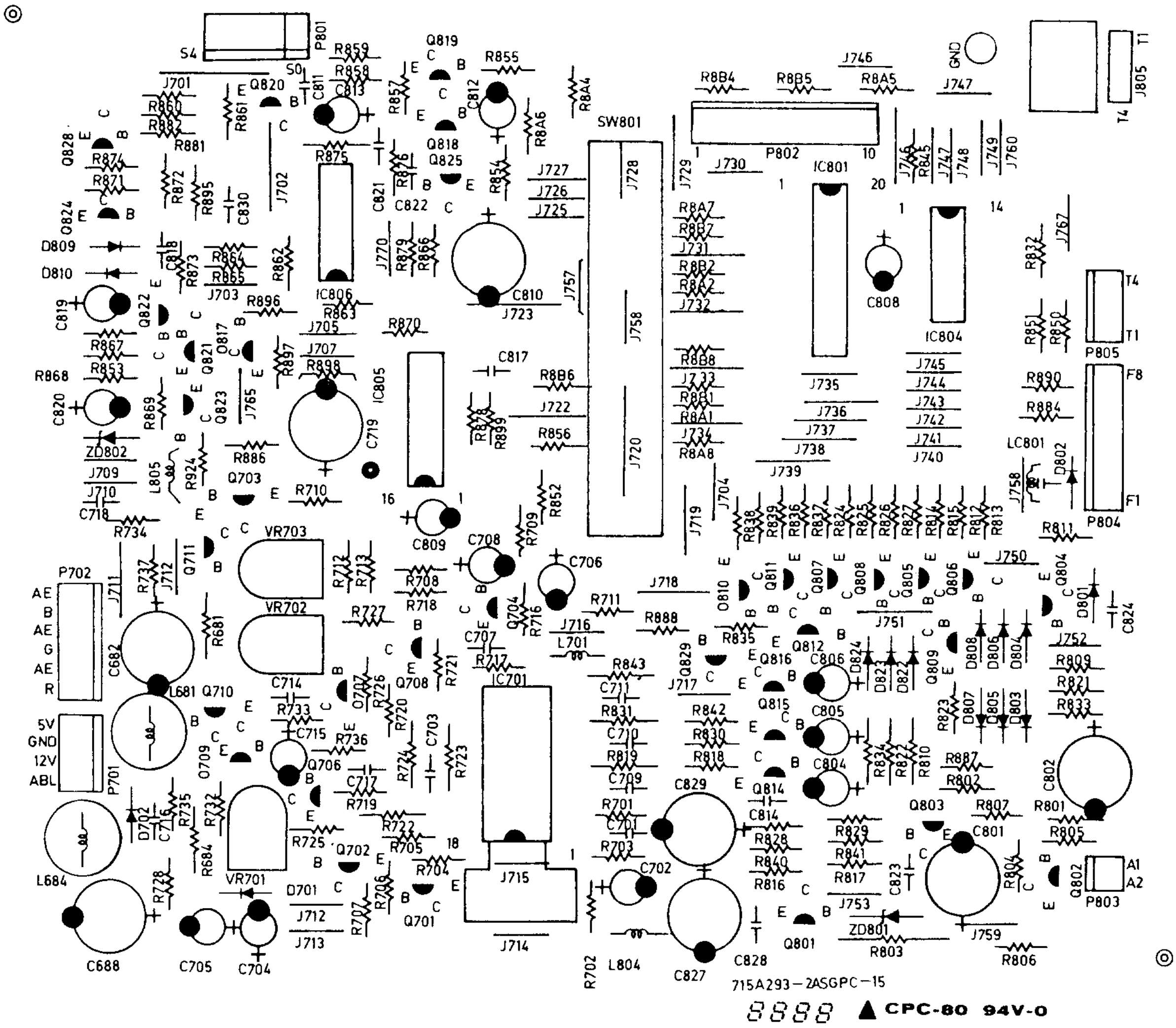
Turn this knob for the proper horizontal position of the display. Turn knob clockwise to reposition display to the right; turn it counterclockwise to reposition to the left.



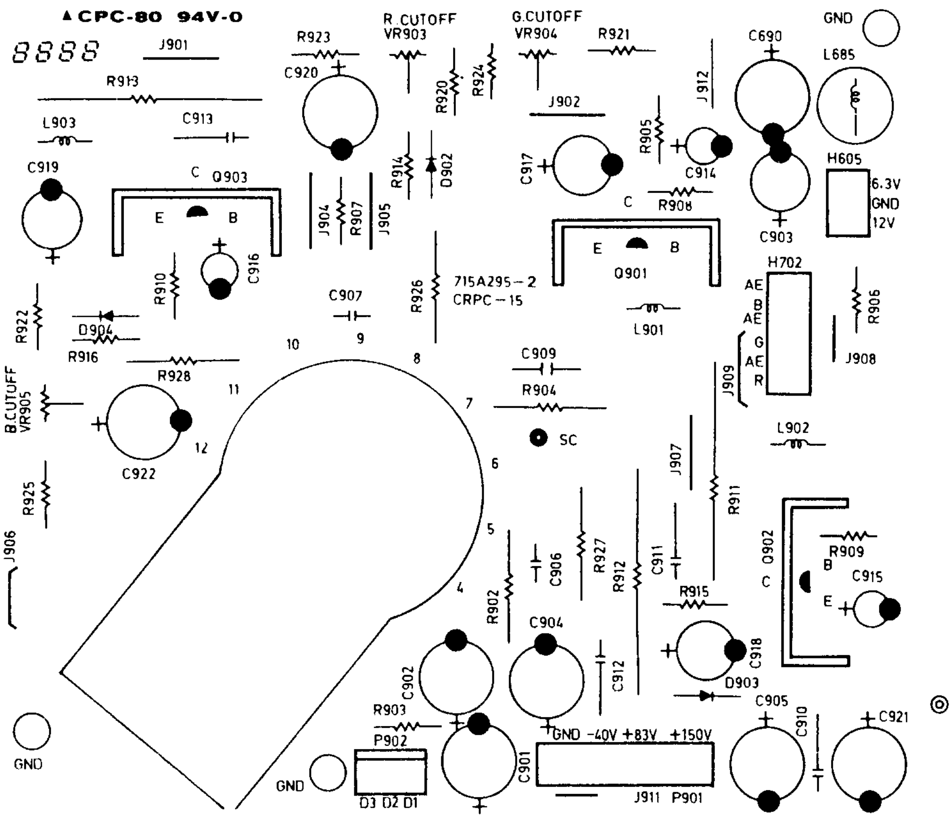
1. CONTROL BOARD (CNPC-15)
2. SIGNAL BOARD (SGPC-15)
3. MAIN BOARD (CMPC-15)
4. CRT BOARD (CRPC-15)


COLD
HOT
L N
WARNING: SEE NOTICES ON BACKCOVER
F601 T2.5A 250V
715A294-1
CMPC-15

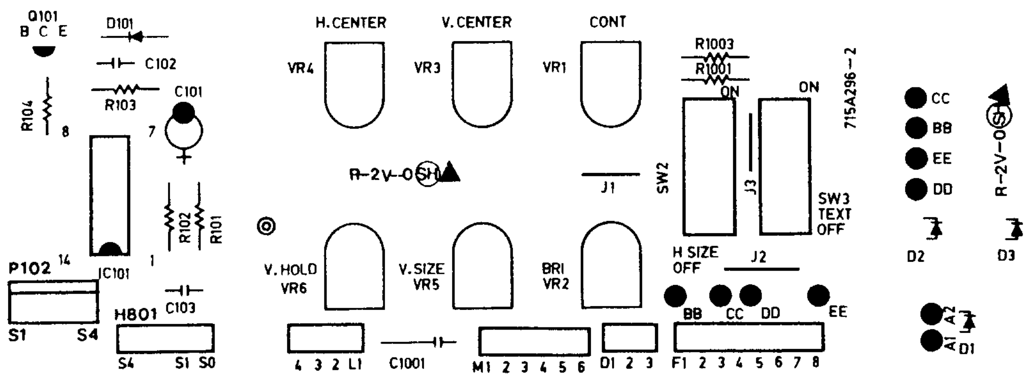
CMPC-15


715A293-2ASGPC-15
8888 ▲CPC-80 94V-0
SW801
IC801
IC804
IC701
P702
AE
B
AE
G
AE
R
P701
5V
GND
12V
ABL
P805
P804
P803

SGPC-15



CRPC-15



CNPC-15

ALIGNMENT PROCEDURE

Adjust conditions and precautions

1) Power supply voltage

2) Warm up time

   The display must be on for at least 20 minutes before starting alignments.

   This is especially critical in color temperature and white balance adjustments.

3) Signals

Video:	Analog 0.6 Vp-p, 75 OHM, positive Analog sync. on green Video: 0.6 Vp-p Synchronizing 0.3 Vp-p
Synchronizing:	TTL level negative/positive Separate/ composite
Scanning frequency:	H. 15KHz – 37KHz V. 50Hz – 80Hz

Unless otherwise specified, adjust at signal 6 (22 KHz)

1. SW. REG.

   1–1 +B1 (VR661) 83V Line
   Adjust VR661 to be 83VDC

   1–2 High Voltage control (VR641)
   This control is permanently sealed at factory.
   Do not attempt to readjust.

2. DEF Pre-Adjustment

   2–1 +16v Adjustment
   Adjust TP551-GND to +16V ± 0.05V DC (VR551)

   2–2 Receive signal 1 and adjust VR552 so that the voltage between TP552 and GND is 10 ± 0.05VDC

   2–3 H.V. Protector

   The high Voltage protector control 1 (VR2002) and control 2 (VR2003) are permanently sealed at factory.

   Do not attempt to readjust.

3. Main Adjustment

Unless otherwise specified, adjust the controls on the control board-CNPC-15 as show below:

VR1	Contrast:	Max (fully clockwise)
VR2	Brightness:	So that no background raster appears
VR3	V position:	Center
VR4	H position:	Center
VR5	V size:	Center
VR6	V hold:	Proper position
SW2	H. size:	OFF
SW3	TEXT SW:	OFF
Focus control:		Adjust for the optimum picture.

3–1 Adjustment of H. raster centering

Turn the brightness control fully clockwise so that background raster can be seen, adjust VR470 so that the background raster is in the center of the CRT screen. If the raster is off to one side, change the connector H503.

NOTE: Due to overscan; it is not possible to center the background raster if the horizontal frequency is between 15KHz and 20KHz, and the SW 2 H. size is ON.

3–2 1. H-hold

(a) Short between TP501 and GND

(b) Apply signal 3 (30KHz) and adjust H hold (1) VR502 so that the entire picture appears.

(c) Apply signal 2 (20KHz) and adjust H hold(2) VR555 so that the entire picture appears.

2. H. position (adjust to the center of the raster)

(a) Adjust sub H center 1 VR501 to center the picture when signal 3 (30.48KHz) is applied.

(b) Adjust sub H center 3 VR554 to center the picture (1mm to the left) when signal 6(22K) is input for mutuality between actual EGA timing and test timing.

(c) Adjust sub H center 2 VR553 to center the picture when signal 5 (15.75KHz) is applied.

(d) Check that the picture is centered when the signal in a), b), and c) above are applied.

NOTE: Adjust in the order a) → b) → c)

3. Side pincushion

Adjust VR404 and VR406 for the optimum side pincushion distortion.

4. H width

Adjust H width L505 so that the size of the picture when signal 6 (22K) is applied is 240mm.

5. V position

Vertically center the picture when adjustment signal 6 (22KHz) is applied (VR3, V position)

6. V linearity

Adjust VR401 and VR402 so that vertical linearity is optimum when signal 6 (22KHz) is applied.

7. V-hold/V. size

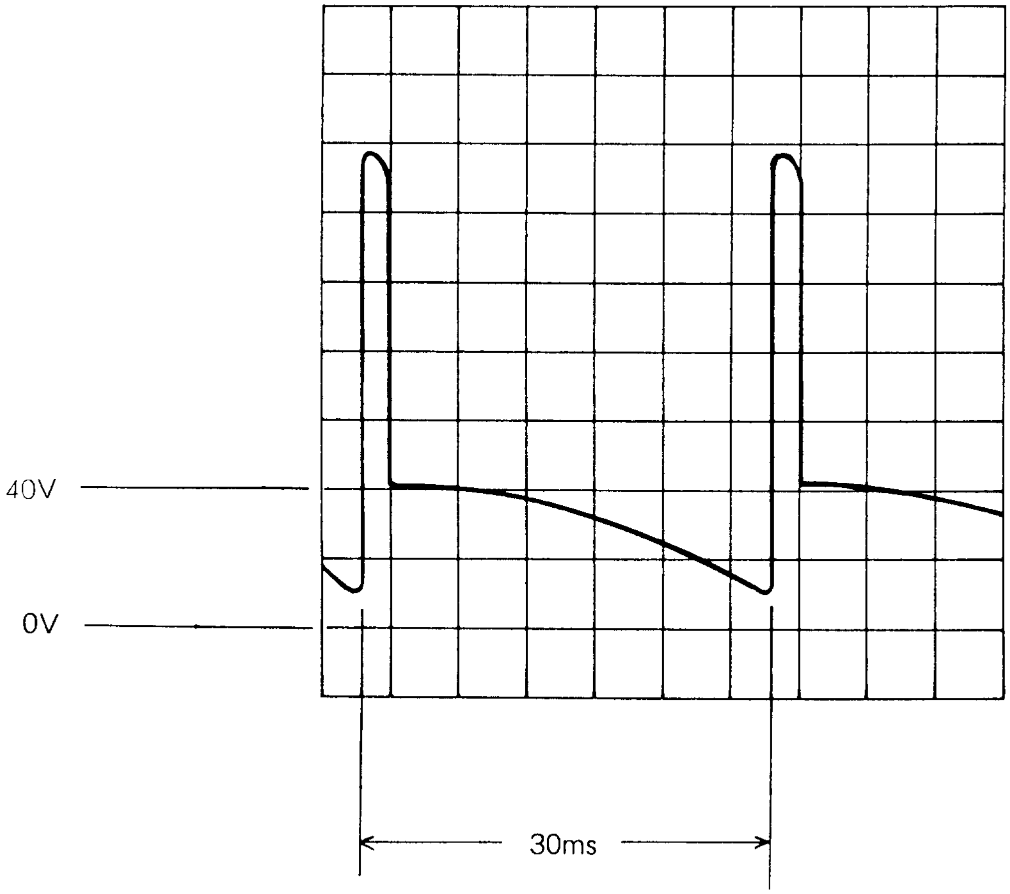
(a) Remove input signal

(b) Turn VR6 V-HOLD control fully counterclockwise

(c) Adjust VR452 so that the Vertical output frequency is 30ms

(d) Turn VR5 V-SIZE control fully clockwise

(e) Adjust VR403 and VR451 so that the vertical output waveform and voltage as shown below.



5. Focus Adjustment (Use signal 3)

   Turn the contrast control fully clockwise and set the brightness control to a suitable position. Adjust the focus control to the optimum position.

6. Purity Adjustment

   1) Be sure that the display is not being exposed to any external magnetic fields.

   2) Ensure that the spacing between the purity, Convergence Magner, (PCM), assembly and the CRT stem is 29 mm ± 1 mm. (See below diagram)

   3) Produce a complete, red pattern on the display. Adjust the purity magnet rings on the PCM assembly to obtain a complete field of the color red. This is done by moving the two tabs in such a manner that they advance in an opposite direction but at the same time to obtain the same angle between the two tabs, which should be approximately 180°.

   4) Check the complete blue and complete green patterns to observe their respective color purity. Make minor adjustments if needed.

7. Convergence Adjustment

   1) Produce a magenta crosshatch on the display.

   2) Adjust the focus for the best overall focus on the display. Also adjust the brightness to the desired condition.

   3) Vertical red and blue lines are converged by varying the angle between the two tabs of the 4-pole magnets on the PCM assembly. (See above diagrams)

   4) Horizontal red and blue lines are converged by varying the two tabs together, keeping the angle between them constant.

   5) Produce a white crosshatch pattern on the display.

   6) Vertical green and magenta lines are converged by varying the angle between the two tabs of the 6-pole magnets.

   7) Horizontal green and magenta lines are converged by varying the two tabs together, keeping the angle between them constant.

4-2. Adjustment of gain control-Use signal 7

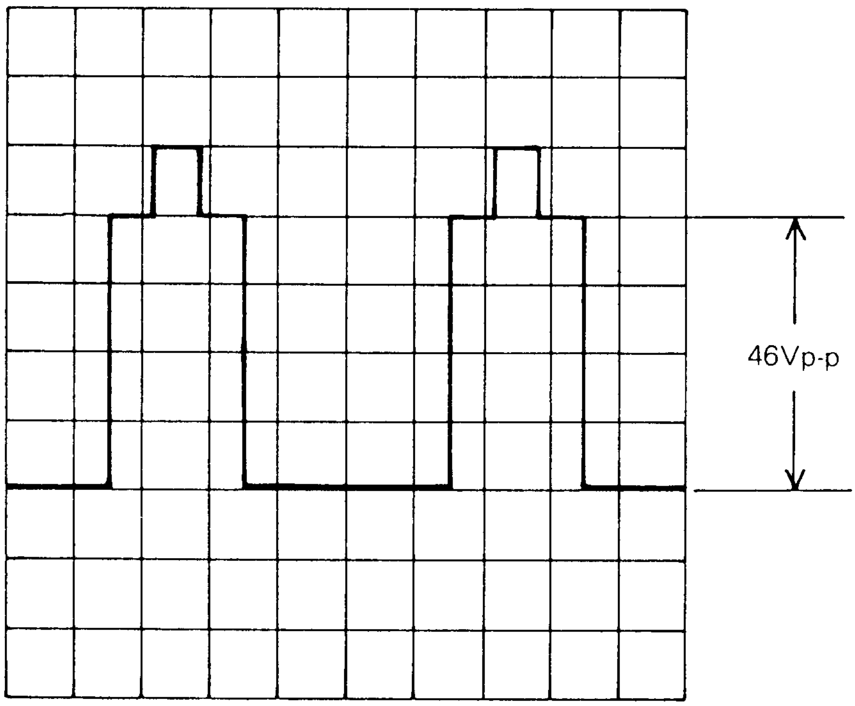
(a) Receive a window pattern (Within a range for which ABL does not function ever with a maximum contrast, and preferably with a video range of 1/3 to (1/2H) X (1/2V)

(b) Turn the contrast control fully clockwise.

(c) Adjust VR702 so that G OUT on the CRT Board CRPC–15 becomes 46Vp-p.

(d) Adjust VR701 and VR703 so that the RED color and BLUE color are as Bright as GREEN

Do not include clamp pulse



5. Focus Adjustment (Use signal 3)

   Turn the contrast control fully clockwise and set the brightness control to a suitable position. Adjust the focus control to the optimum position.

6. Purity Adjustment

   1) Be sure that the display is not being exposed to any external magnetic fields.

   2) Ensure that the spacing between the purity, Convergence Magner, (PCM), assembly and the CRT stem is 29 mm ± 1 mm. (See below diagram)

   3) Produce a complete, red pattern on the display. Adjust the purity magnet rings on the PCM assembly to obtain a complete field of the color red. This is done by moving the two tabs in such a manner that they advance in an opposite direction but at the same time to obtain the same angle between the two tabs, which should be approximately 180°.

   4) Check the complete blue and complete green patterns to observe their respective color purity. Make minor adjustments if needed.

8. Switches and Controls Operation

Confirm the following SWs and controls operate correctly.

Switches

1) TTL/ANALOG SW

2) COLOR SW

3) TEXT SW

4) H. Width SW

Controls

1) Brightness

2) Contrast

3) V. size

4) V. position

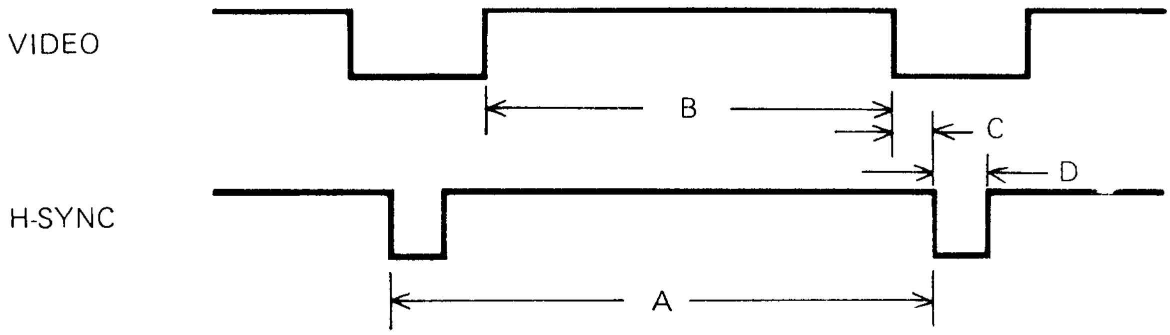
5) V. Hold

6) H. position

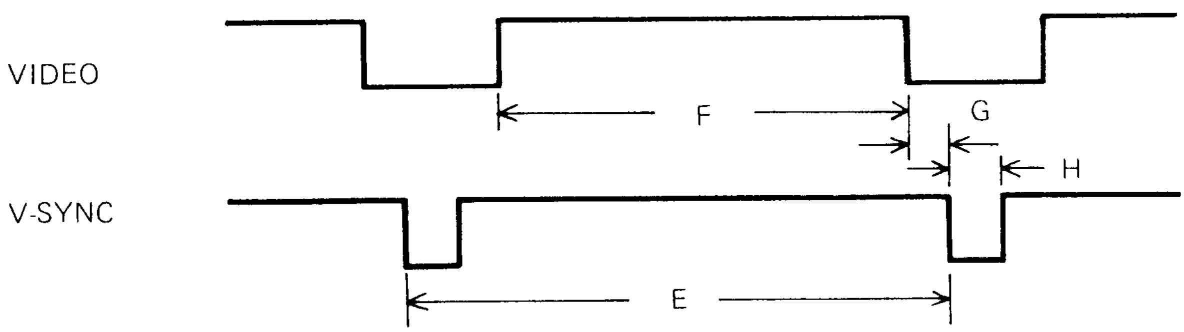
9. Multi Scanning Operation

Confirm the CM-314 operate correctly with IBM PC W/CGA, EGA also PGA, PS2 or with signal 3,4,5, and 6.

HORIZONTAL



VERTICAL

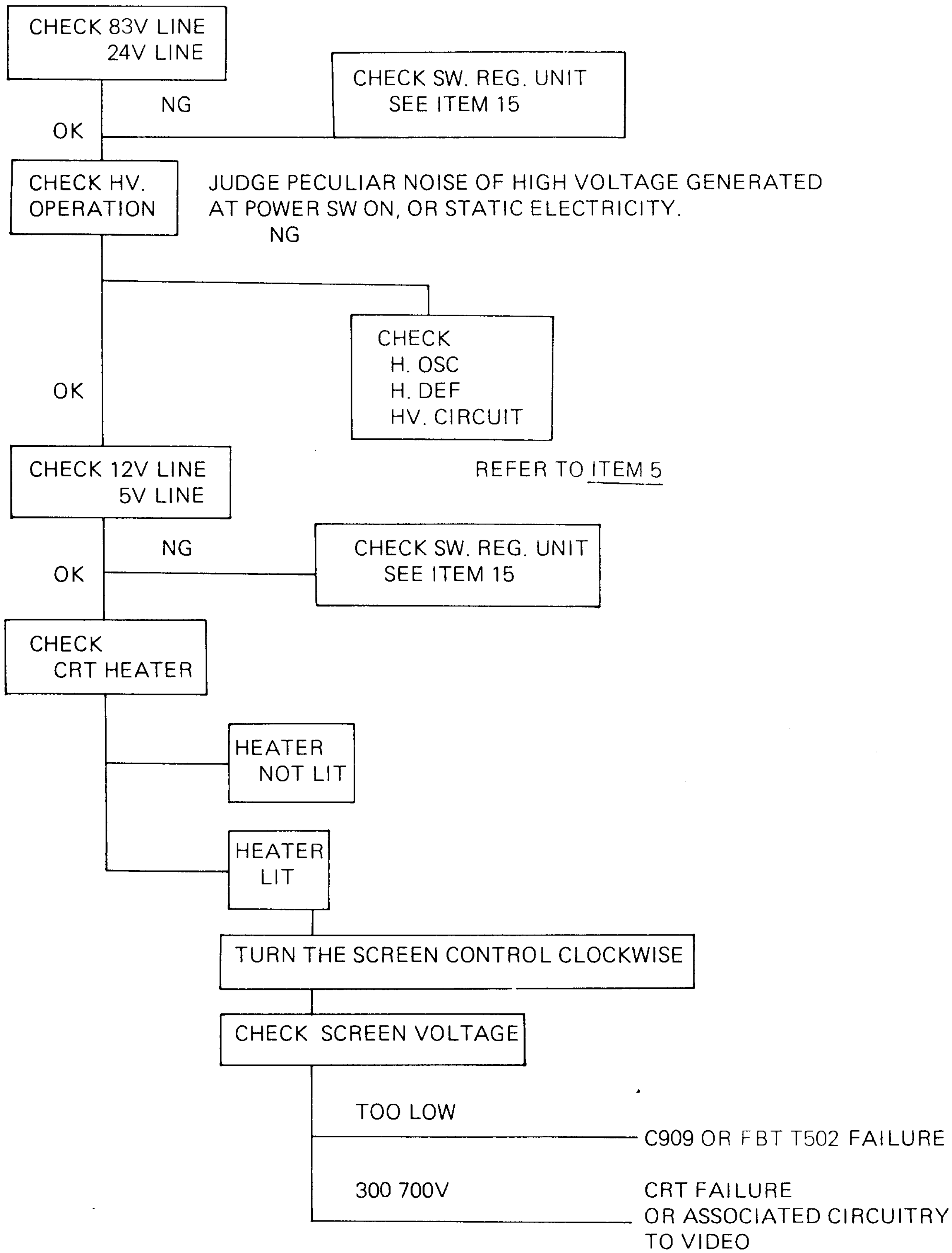


	HORIZONTAL				VERTICAL			
Signal No.	A (us)	B (us)	C (us)	D (us)	E (H)	F (H)	G (H)	H (H)
1	40	30.77	3.41	3.08	410	380	0	3
2	50	38.46	4.03	3.85	330	300	1	3
3	32.82	25.49	0.32	4.46	500	480	1	2
4	32.82	25.49	0.32	4.46	500	400	41	2
5	63.1	45.07	6.76	0.49	260	200	35	1
6	45.45	39.1	0.37	4.89	360	350	11	13
7	63.1	11.27	24.15	3.94	260	100	85	1
8	63.1	45.07	6.76	3.94	260	200	35	1

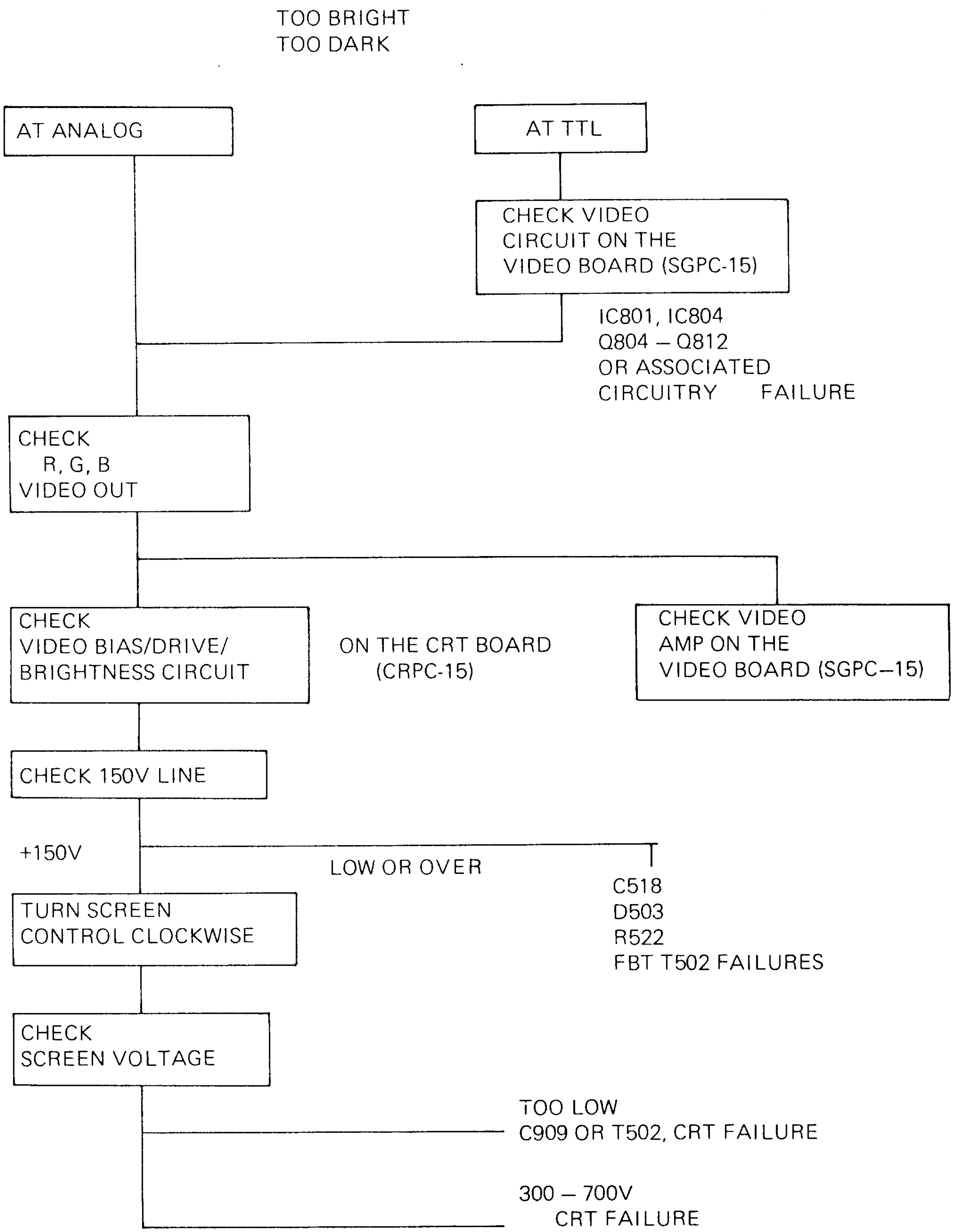
TROUBLESHOOTING

BEFORE USING THIS CHART, PLEASE REFER TO THE TROUBLESHOOTING IN THE USER'S MANUAL

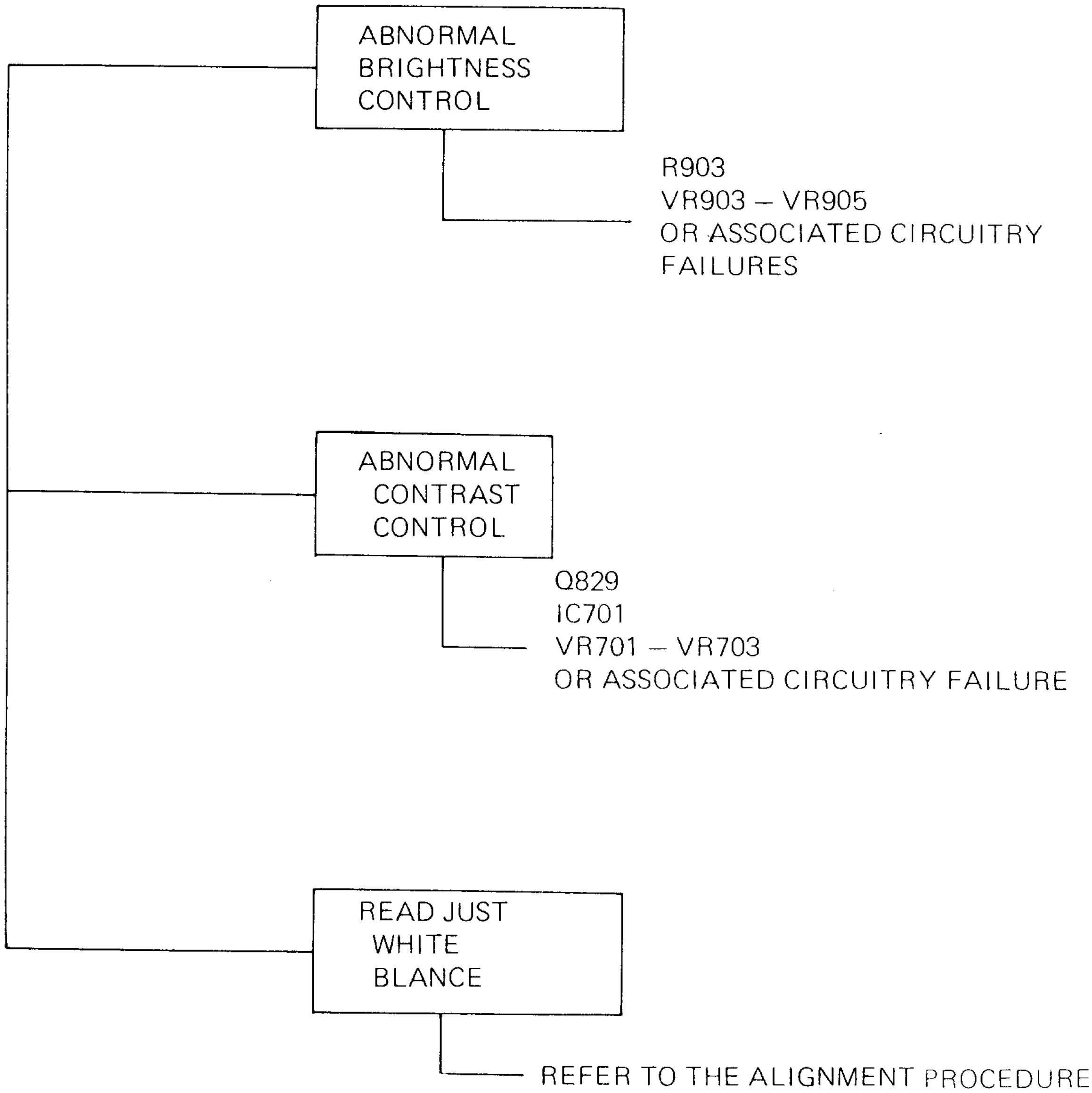
1. NO RASTER



ABNORMAL VIDEO ON CRT SCREEN



3. ABNORMAL WHITE BALANCE AND TRACKING



4. NO BLANKING WORKS

VISIBLE RETRACE LINE ON THE BACK RASTER

CHECK BLANKING CIRCUIT

- Q504, ZD402, D405, R522 — ON THE CIRCUIT BOARD (CMPC-15) FAILURE
- IC804, IC701, Q828, Q703 — ON THE VIDEO BOARD (SGPC-15) FAILURE

5. H. OSC/DEF/HV. CIRCUIT FAULT

NO RASTER
ABNORMAL PICTURE SIZE
ABNORMAL VIDEO ON THE CRT SCREEN

CHECK HV. PROTECTOR FOR OPERATION

NO

THE HIGH VOLTAGE PROTECTOR CIRCUITRY MAKES AN AUDIBLE NOISE DURING OPERATION

YES

DISCONNECT R500

CHECK THE HORIZONTAL OSC

MEASURED ON THE CIRCUIT BOARD (CMPC-15) POINT Q502 BASE.

SYNCHRONIZING WITH H. SYNC?

FREE RUNNING OR NO PULSE

YES

H. OUTPUT CIRCUIT FAILURE
Q502
Q503
T502 FBT
DEF YOKE FAILURE

IC401 FAILURE
OR
FV CONVERTER AND
ASSOCIATED CIRCUITRY FAILURE

SEE ITEM 6

OR
SW, REG FAILURE SEE ITEM 15
OR
HV, FEEDBACK CIRCUIT FAILURE
T502 (FBT)
R2001
FAILURE

OR
HV, PROTECTOR FAILURE
Q2001, Q2002, ZD2001
ZD2002, D2005, IC401
FAILURE

IC401 FAILURE
F.V CONV. — SEE ITEM 6
SW, REG — SEE ITEM 15

6. F-V CONVERTER AND ASSOCIATED CIRCUITRY

CHECK H. SYNC ON THE CIRCUIT BOARD (CMPC-15) POINT S3.

UNSTABLE H. SYNC
ABNORMAL PICTURE SIZE
HV. PROTECTOR ERROR

NG → CHECK SYNC CIRCUIT ON THE VIDEO BOARD (SGPC-15)

OK ↓

CHECK TP551 AND TP552 VOLTAGES

MEASURED ON THE CIRCUIT BOARD (CMPC-15)
SIGNAL CONDITION: SEE ALIGNMENT PROCEDURE

TP551 = 16V
TP552 = 10V AT 25KHz HORIZONTAL FREQUENCY

NG → READJUST

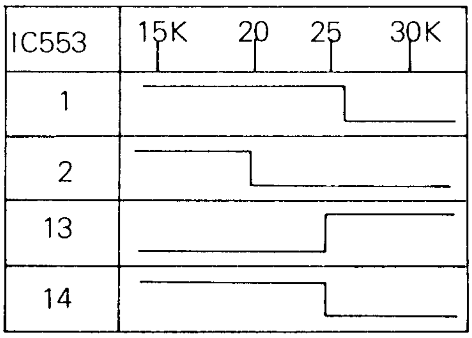
READJUST: OK ↓ / NG → IC553, IC552 FAILURE

OK ↓

CHECK THE IC553 OUTPUT

MEASURED ON THE CIRCUIT BOARD (CMPC-15)

— fH



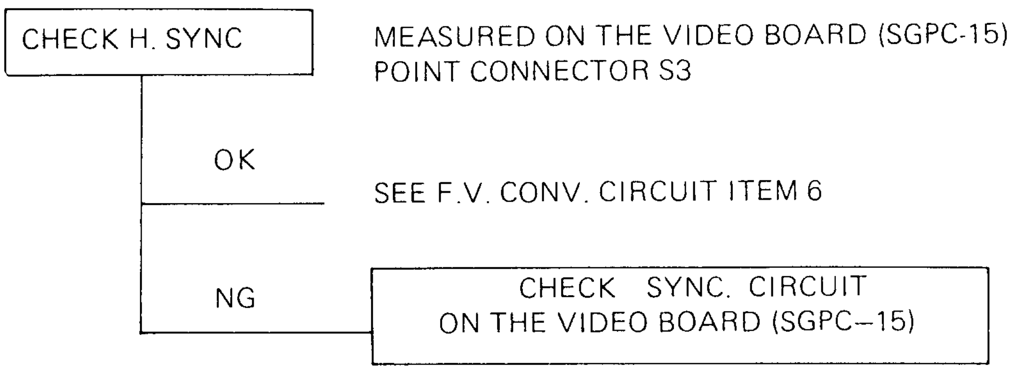
IC553	15.85KHz CGA	22KHz EGA	30.48KHz PGA
1	H	H	L
2	H	L	L
13	L	L	H
14	H	H	L

OK ↓ IC554, IC555 FAILURE

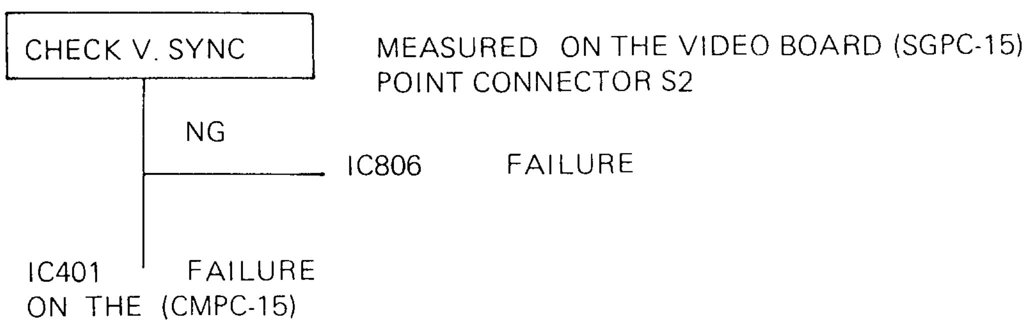
NG → IC553 FAILURE

7. UNSTABLE SYNCHRONIZATION

HORIZONTAL



VERTICAL



8. PICTURE SIZE

ABNORMAL HORIZONTAL WIDTH

READJUST
H. WIDTH COIL
L505

ADJUSTED ON CIRCUIT BOARD (CMPC-15)

CHECK F-V CONVERTER AND
ASSOCIATED CIRCUITRY

REFER TO ITEM 6

CHECK H. WIDTH
CORRECTION CIRCUIT

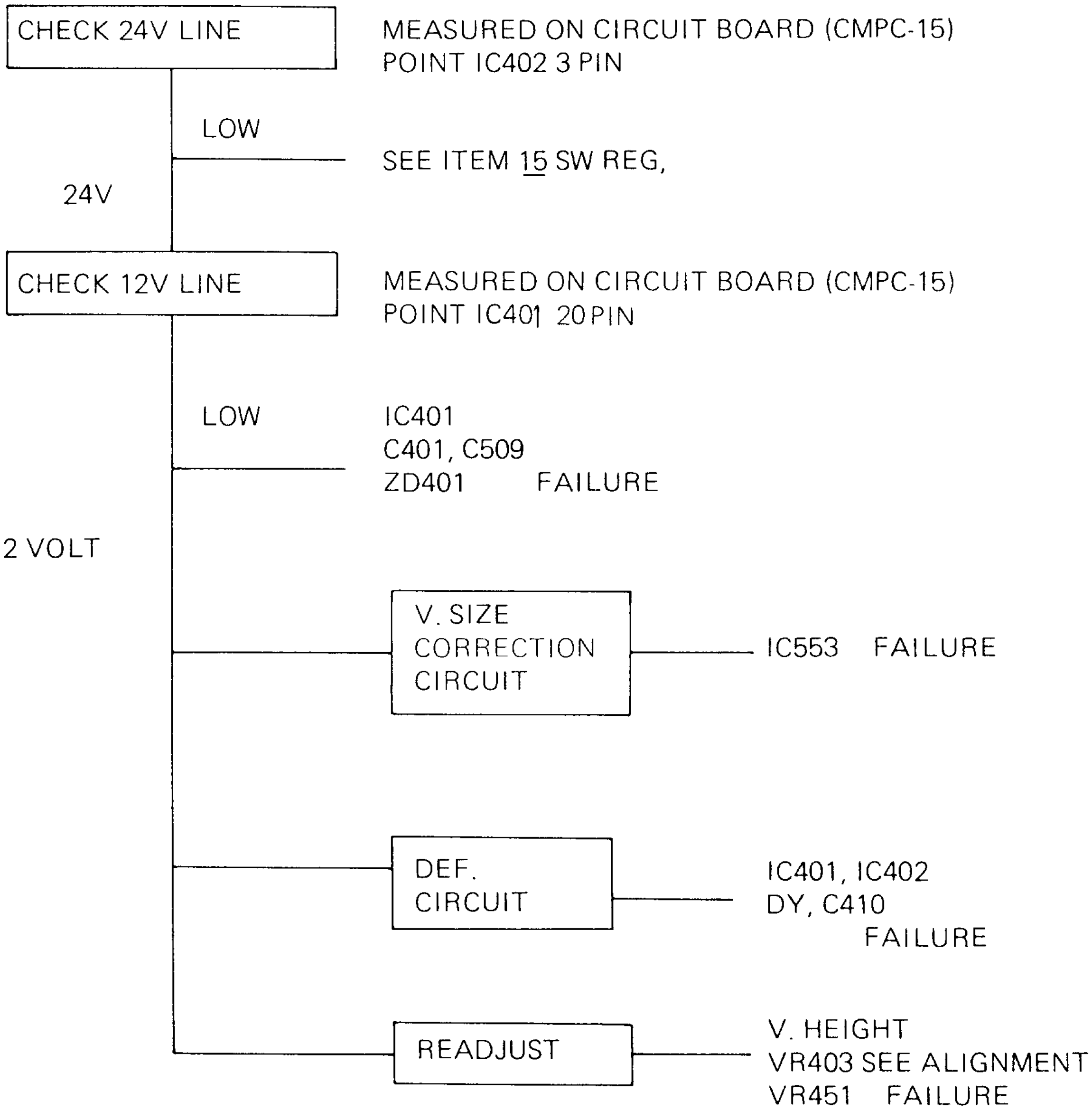
Q554
C513, C514, C515
ON THE CIRCUIT BOARD (CMPC-15)

CHECK S-CORRECTION
FOR H. DEF. CIRCUIT

Q557
Q558
C522, C558, C557
D554, D555

DEF YOKE
FBT T502, R2001, D2001, C2001
SW, REG, SEE ITEM 15

ABNORMAL VERTICAL HEIGHT



9. CENTERING

9–1. HORIZONTAL

a) BACK RASTER CENTERING

CHECK BACK RASTER CENTERING CIRCUIT

- CHECK ON THE CIRCUIT BOARD (CMPC-15)
- D470, C470, VR470
  CONNECTER H503 FAILURE

b) PICTURE CENTERING

READJUST SUB H CENTERING

- SEE ALIGNMENT PROCEDURE
- NG

CHECK F-V CONVERTOR AND ASSOCIATED CIRCUITRY

- REFER TO ITEM 6
- NG
- IC401
  CONNECTOR L FAILURE

9–2. VERTICAL

CHECK VERTICAL CENTERING CIRCUIT

- Q402
  Q403
  R414
  D401
  D402
  D403
  CONNECTOR P401, M4 or M5 FAILURE

10. SIDE PINCUSHION DISTORTION FAILURE

READJUST
VR404 ON THE
CIRCUIT BOARD (CMPC–15)

NG

C415, C416
Q404, Q405
T503 FAILURE

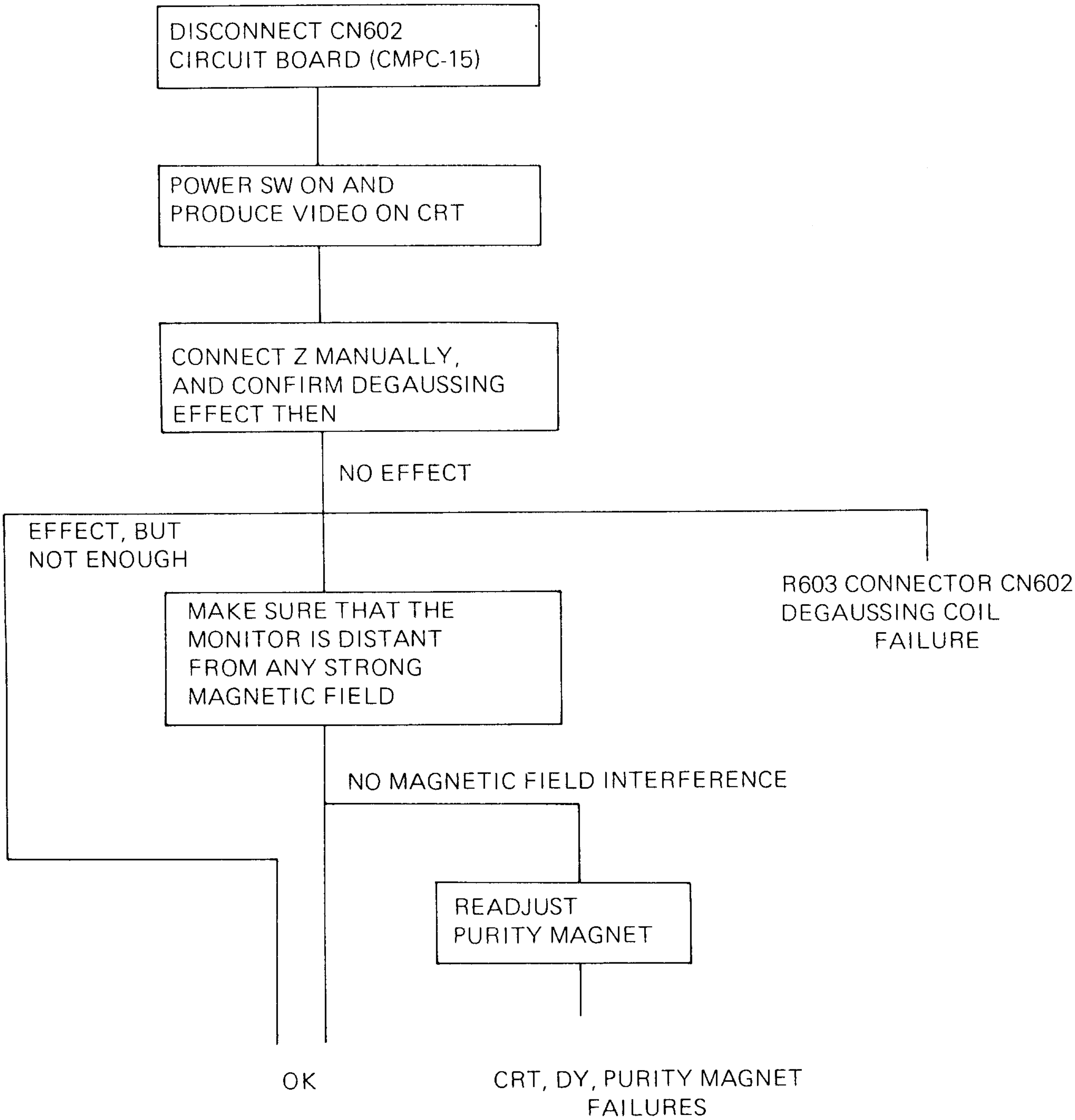
11. POOR FOCUS

READJUST
FOCUS CONTROL

NG

FOCUS CONTROL UNIT
FOCUS LEAD
CRT SOCKET
CRT FAILURE

12. IMPURITY ON CRT SCREEN



13. ABNORMAL TEXT MODE OPERATION

CHECK CONTROL BOARD (CNPC-15)
VIDEO BOARD (SGPC-15)

- ON CONTROL BOARD (CNPC-15)
  TEXT SWITCH SW3
  CONNECTOR F
  FAILURE
- ON VIDEO BOARD (SGPC-15)
  IC801, COLOR SWITCH FAILURE

14. ABNORMAL COLOR AT TTL MODE

CHECK VIDEO BOARD (SGPC-15)

- AT EGA MODE
  IC806
  Q825
  FAILURE
- NO EFFORT BY CONTRAST CONTROL
  Q803, Q804, Q806,
  Q808, Q809, Q811, Q812
  FAILURE
- OTHERS
  8/16/64 COLOR SWITCH
  IC801, Q805, Q807, Q810
  FAILURE

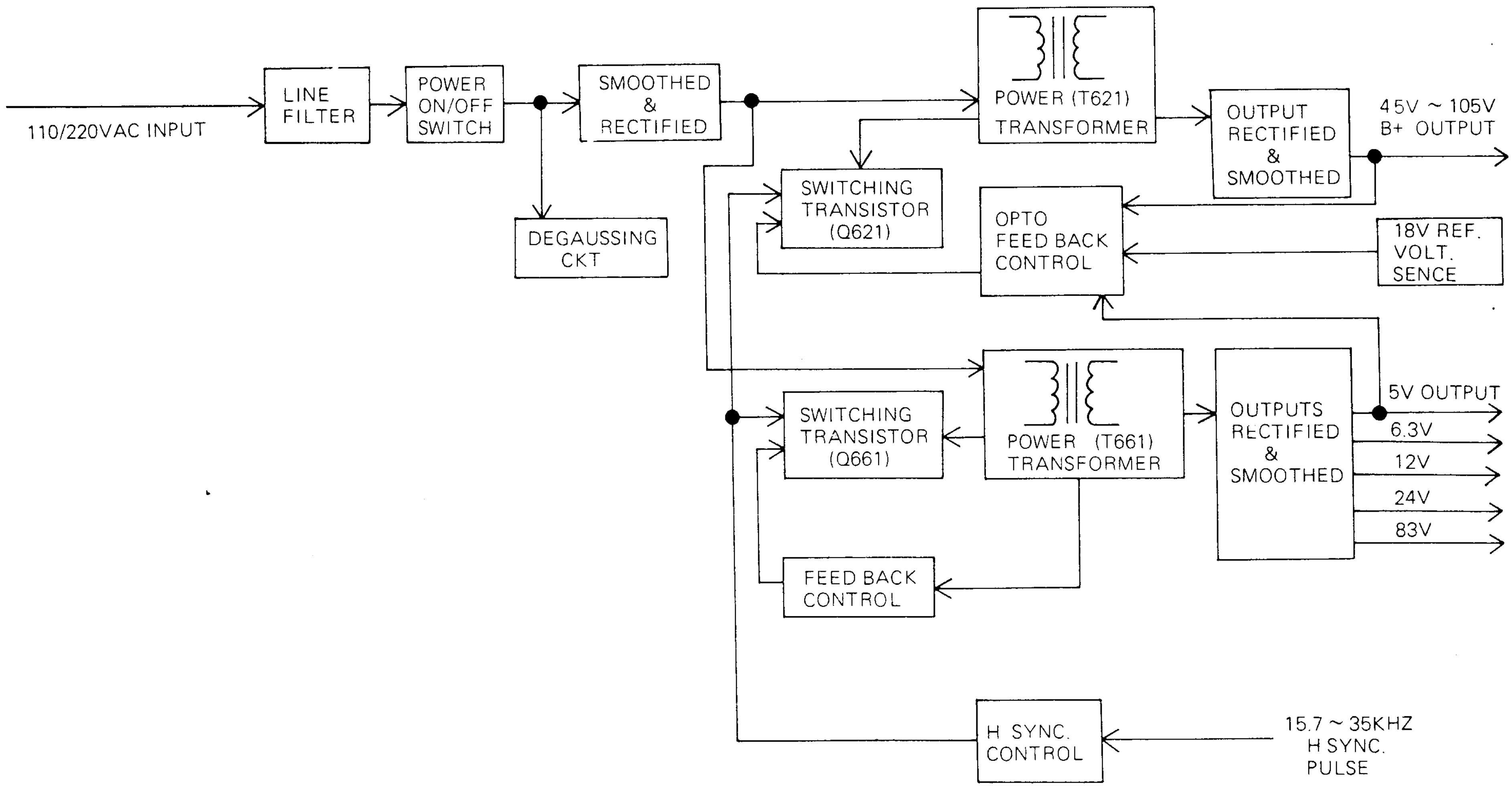
ITEM 15.

1. Before checking SW. ReG. please refer to the power supply block diagram.

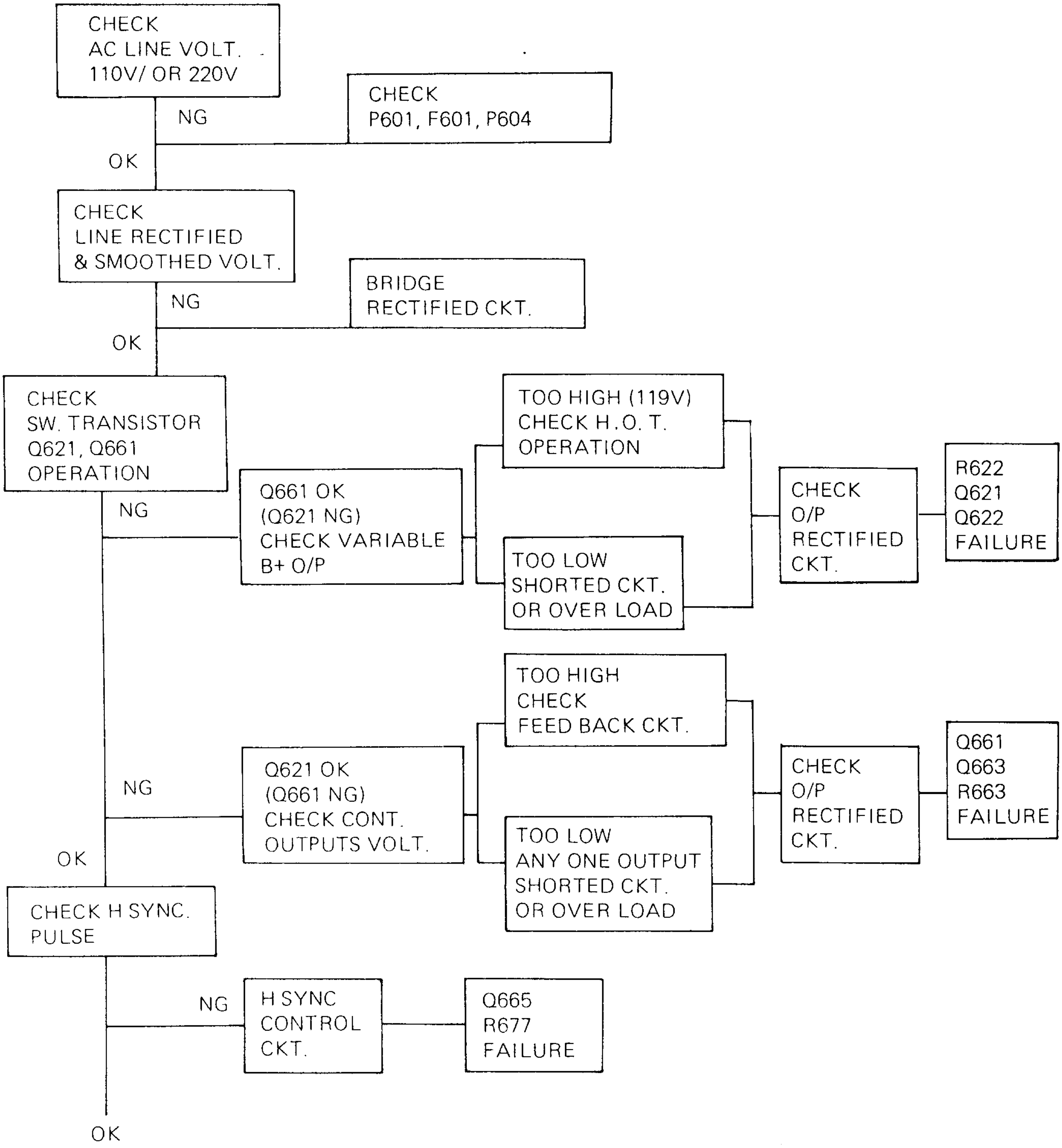
2. Power supply output

   (a) Variable output 45 ~ 105V (depend on H SYNC. freq.)
   (b) Constant outputs 5V, 6.3V, 12V, 24V, 83V

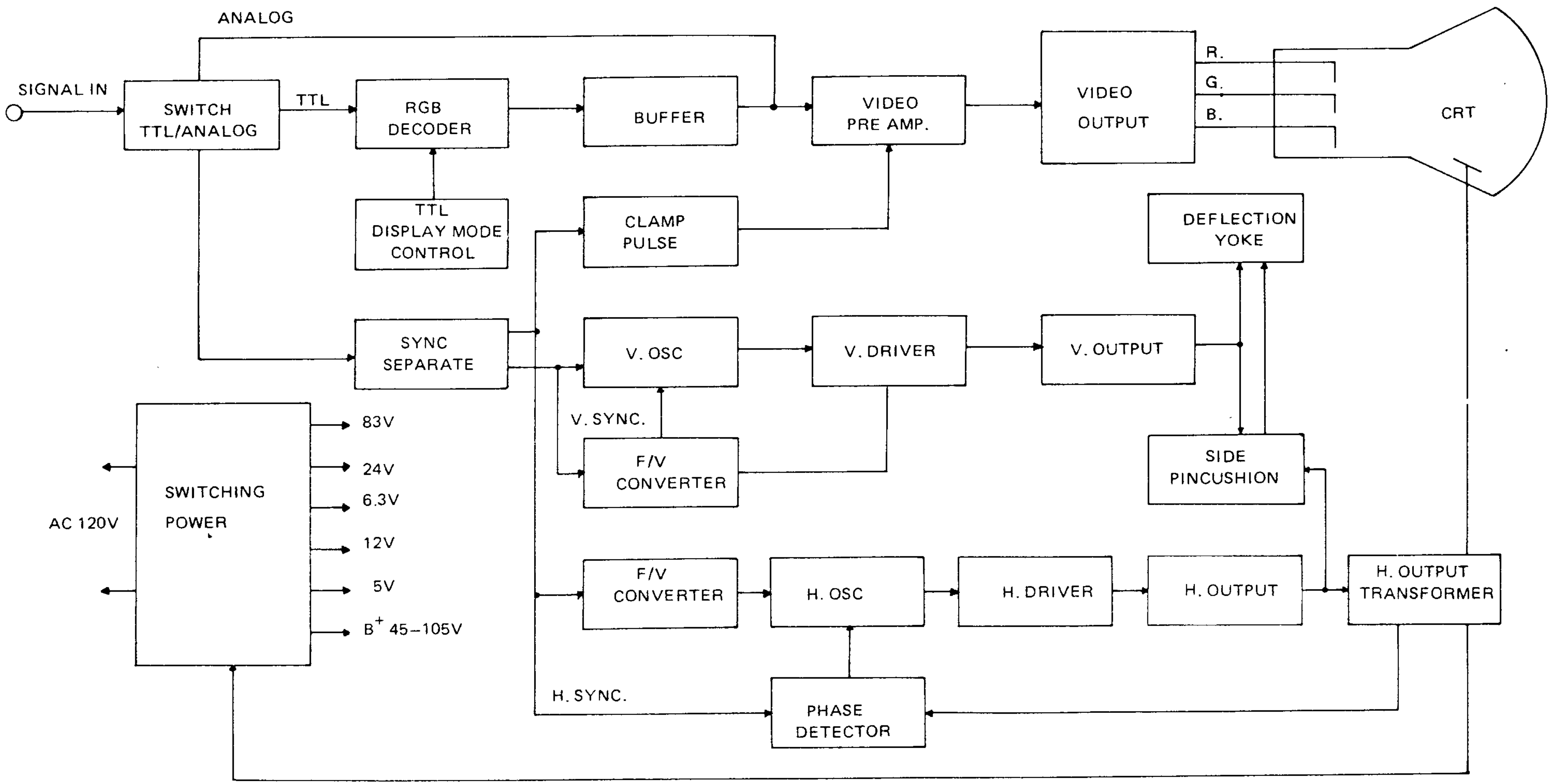
SPPC – 314 (CM-314 POWER SUPPLY) BLOCK DIAGRAM

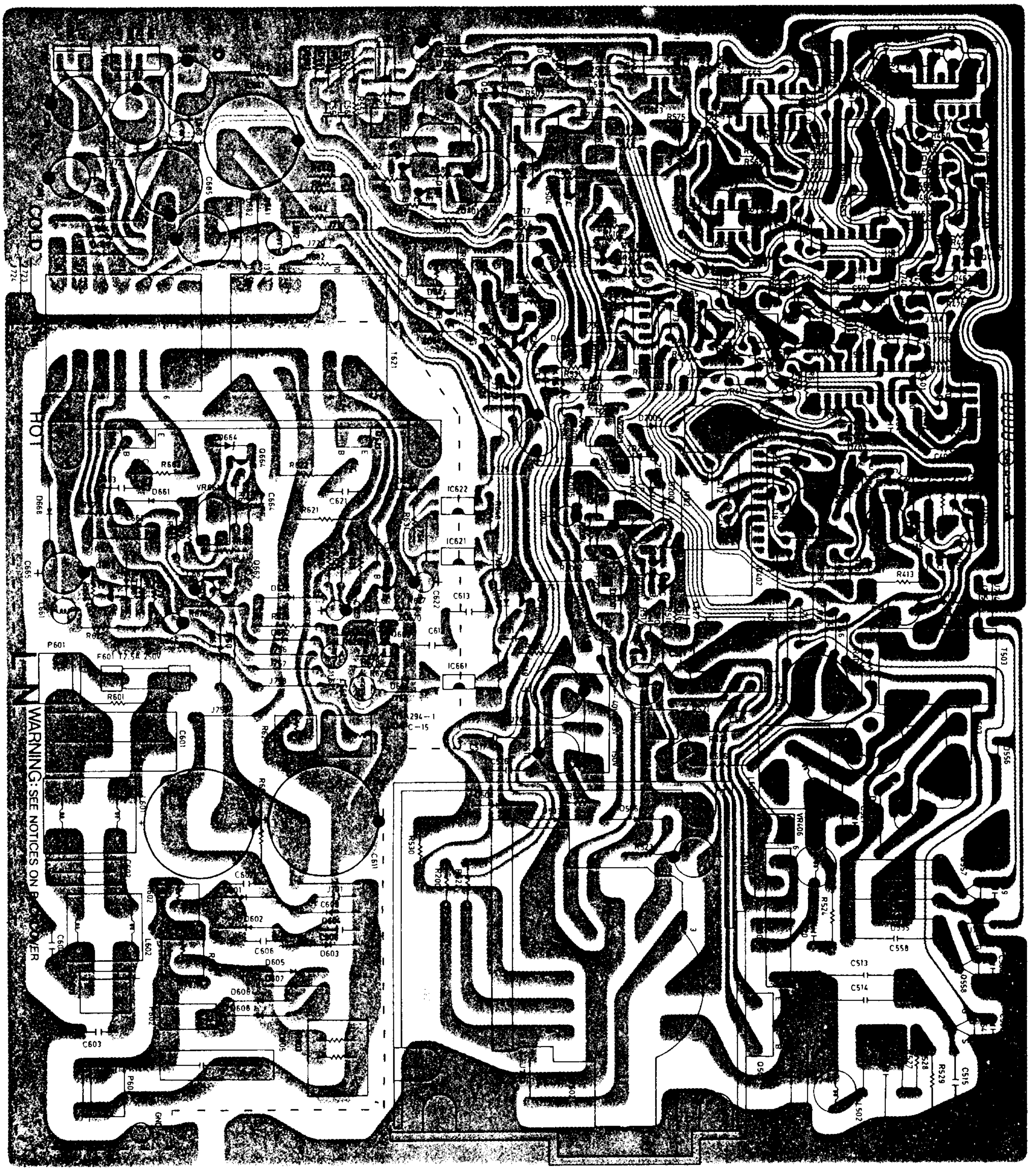


3. Checking flow chart

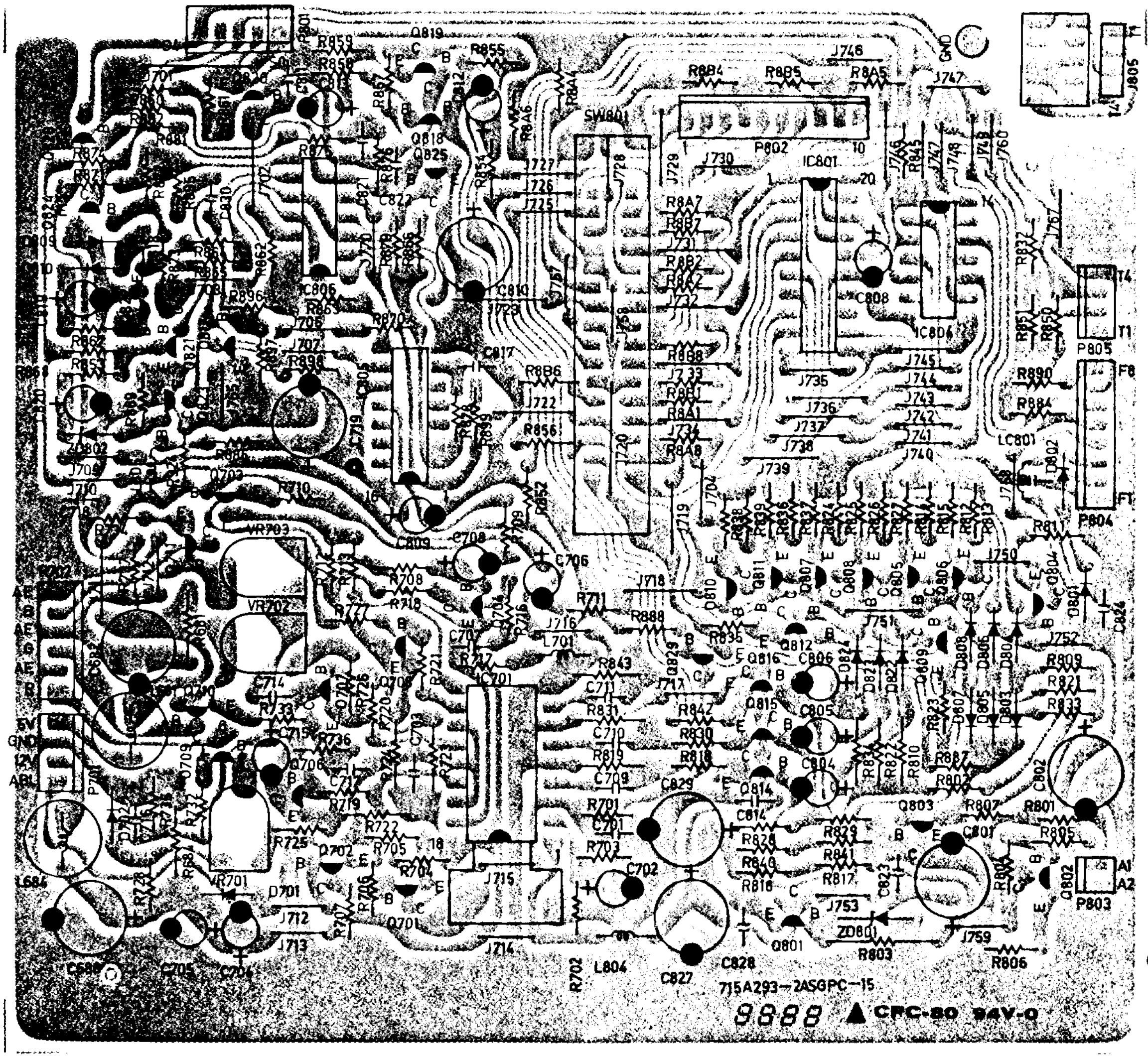


CM–314 BLOCK DIAGRAM

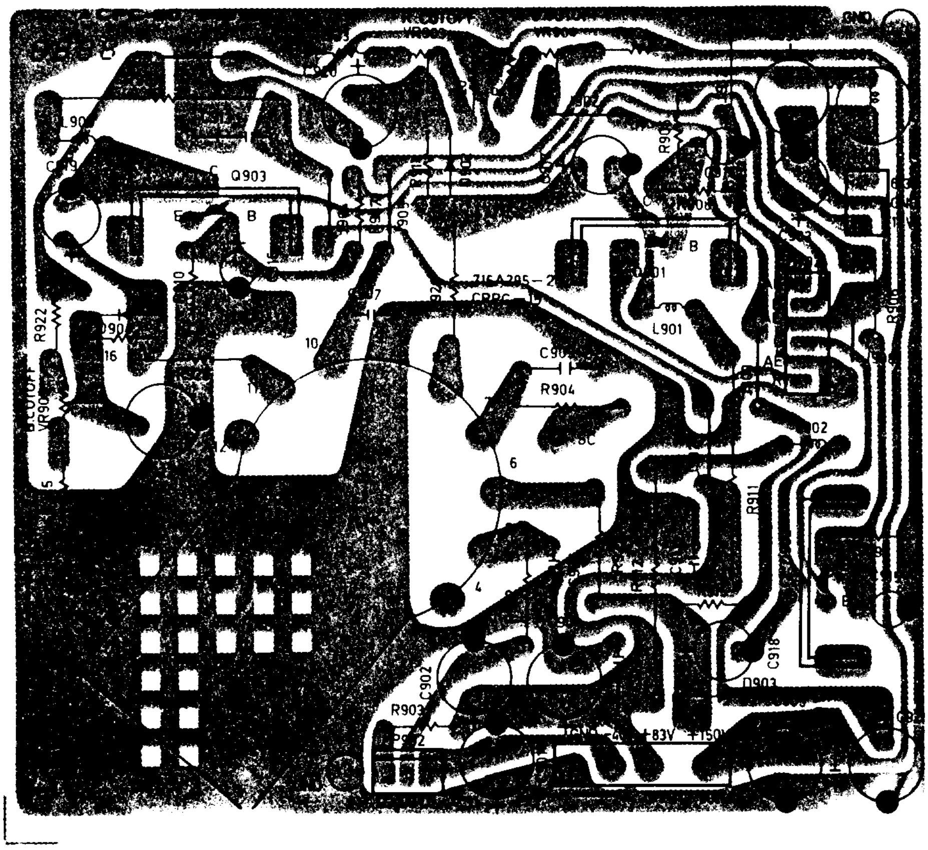




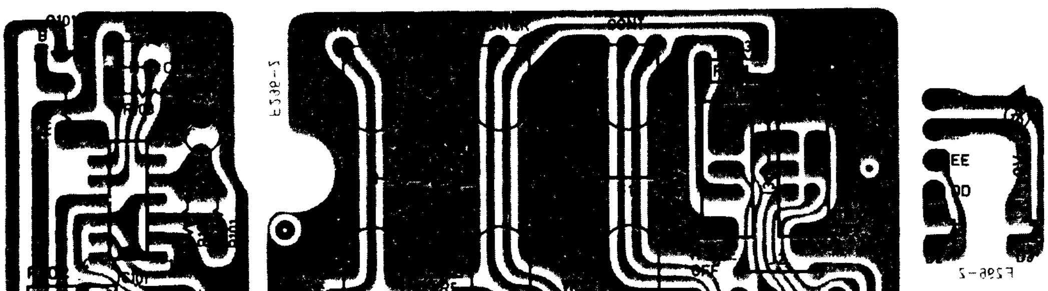
CMPC-15


SW801
IC801
IC806
IC701
P802
P803
P804
P805
VR702
VR703
GND
715A293-2ASGPC-15
CPC-80 94V-0

SGPC-15



CRPC-15



CNPC-15

MODEL	CTM-3BHB1F (FCC/UL)	CTU-3BHB1 (CSA)	SPECIFICATION
APPL.	CMC-15F		CHAS (15-35KHZ AUTO)
		CMC-15U	CHAS (15-35KHZ AUTO)
	1T 421- 4-128	1T 421- 4-128	3x10
	1T 421- 9-128	1T 421- 9-128	4x11 STEEL
	2C 9- 77-128	2C 9- 77-128	STEEL
	2T 208- 1- 47	2T 208- 1- 47	TERNEPLATE
	2C 217- 1-128	2C 217- 1-128	STEEL
	3C 1-115- 47	3C 1-115- 47	6.2x20.8x2.3
	4C 1- 97-128	4C 1- 97-128	STEEL
	5B 38- 8-	5B 38- 8-	RUBBER WASHER
	9B 84- 20-	9B 84- 20-	STEEL
	9S 301- 5-	9S 301- 5-	BRASS
	11D 27- 3-	11D 27- 3-	NYLON
	12A 195- 17-	12A 195- 17-	CHLOROPRENE
	12T 325- 2-	12T 325- 2-	RUBBER
	15T5286- 1-	15T5286- 1-	TERNEPLATE
	15T5286- 2-	15T5286- 2-	TERNEPLATE
	15T5358- 1-	15T5358- 1-	ALUMINUM
	15T5439- 1-	15T5439- 1-	TERNEPLATE
	19B 403- 5-	19B 403- 5-	STEEL
	19T 522- 1-	19T 522- 1-	WIRE STEEL
	23T3047- 32-	23T3047- 32-	ALUMINUM
		26A 500- 1-	SERIAL CARD (YELLOW)
	26 800- 1-		SERIAL CARD
	33T3292- 1-	33T3292- 1-	A.B.S. PLASTIC
	33T3292- 2-	33T3292- 2-	A.B.S. PLASTIC
	33T3313- 7-	33T3313- 7-	A.B.S. PLASTIC
	34E 436- 7-	34E 436- 7- A	A.B.S. PLASTIC
	34E 437- 10- A		A.B.S. PLASTIC
		34E 437- 11- A	A.B.S. PLASTIC
	34E 438- 14- A		A.B.S. PLASTIC
		34E 438- 15- A	A.B.S. PLASTIC
		34E 465- 1- A	A.B.S. PLASTIC
	34E 465- 2- A		A.B.S. PLASTIC
		40A 153- 3-	13" DHHS WARNING LBL
		40A 153- 41-	LABEL
	40 153- 41- 1		WARNING LABEL
	40 154- 8-	40 154- 8-	LABEL
	40A 155-274-		ID & WARNING LABEL
		40A 155-278-	LABEL
		40A 156- 15-	WARNNING LABEL
	40 156- 15- 1		WARNING LABEL
		40A 575- 17-	CSA LABEL
	40 581-192-		WARNING LABEL
	40A 590- 16-	40A 590- 16-	LABEL
	41 51-001-	41 51-001-	TRAVELER CARD
	41A 68- 36-		WARRANTY STATEMENT
	41 401-253- 2		OWNER'S MANUAL
	41A 401-253- 3	41A 401-253- 3	OWNER'S MANUAL
	44T3045- 14-		275# "AB" FLUTE
	44T3045- 14- A	44T3045- 14- A	275# "AB" FLUTE
	44T3079- 1-	44T3079- 1-	E.P.S
	44T3079- 2-	44T3079- 2-	E.P.S
	45C 76- 5-	45C 76- 5-	POLY BAG

APPL.	CTM-3BHB1F	CTU-3BHB1	SPECIFICATION
	45C 77- 1-	45C 77- 1-	TRANSPARENT SHEET
	45C 88- 1-	45C 88- 1-	PE
	50S 102- 5-	50S 102- 5-	PLASTIC
	51A 2- 11-	51A 2- 11-	HOT MELT GLUE
	52D 1-188-	52D 1-188-	PVC TAPE 8MIL BLK
	85T 387- 1-	85T 387- 1-	TERNEPLATE
	89A 171- 20-	89A 171- 20-	POWER CORD
	89A 173- 21-	89A 173- 21-	CABLE ASS'Y
	89A 173- 22-	89A 173- 22-	CABLE ASSEMBLY
	95A 91-205- 1	95A 91-205- 1	UL1015 & COPPER WIRE
	95A 704- 2-	95A 704- 2-	WIRE & HOUSING ASSY
	96 29- 6-200	96 29- 6-200	H.S. TUBING UL/CSA
	G1S 140- 18-120	G1S 140- 18-120	4MMx18 STEEL
	K1S 340- 7-128	K1S 340- 7-128	M4x7 STEEL
	K1S 350- 25-128	K1S 350- 25-128	M5x25 STEEL
	K1S 401-805-120	K1S 401-805-120	#8x5/8
	K1S 401-806-128	K1S 401-806-128	#8x3/4
	K1S 404-603-120	K1S 404-603-120	#6x3/8
	750D1697- 50-	750D1697- 50-	DEGAUSSING COIL
	750A5100- 4-	750A5100- 4-	14" N. G. 0.31MM CDT

APPL.	CNPC-15F	CNPC-15U	SPECIFICATION
	1T 421- 4-128	1T 421- 4-128	3x10
	32T3029- 2-	32T3029- 2-	PVC SHEET
		33T3403- 2-	CONTROL BOARD FRAME
	33T3403- 3-		A.B.S. PLASTIC
	33T3404- 2-	33T3404- 2-	A.B.S. PLASTIC
	33T3439- 1-	33T3439- 1-	NYLON
	95 201- 59-042	95 201- 59-042	UL1007#22/WHT
	95A1019-610- 4	95A1019-610- 4	UL2464#24/4P HOUSING
	95A1019-610- 6	95A1019-610- 6	UL2464#24/6P HOUSING
	95S1019-611- 8	95S1019-611- 8	UL2468#24/8P HOUSING
	95A1019-612- 3	95A1019-612- 3	UL2464#24/3P HOUSING
	95A1019-613- 5	95A1019-613- 5	UL2464#24/5P HOUSING
	95A1019-615- 2	95A1019-615- 2	UL2464#24/2P HOUSING
	715A 296- 2-	715A 296- 2-	50.0x140.0x1.6MM
C101	67A 301-479- 7	67A 301-479- 7	4.7UF +100–10% 50V
C102	64A 177- 13- 58	64A 177- 13- 58	0.01UF J 50V
C103	65A 452-104- 4	65A 452-104- 4	.1UF +80–20% 16V Z5V
D1	81A 7- 2-	81A 7- 2-	LED
D1	81A 7- 2- 1	81A 7- 2- 1	GREEN LED
D101	93C 64-11H-	93C 64-11H-	DIODE
D102	93C 64-11H	93C 64-11H	DIOOE
D2	81A 7- 2-	81A 7- 2-	LED
D2	81A 7- 2- 1	81A 7- 2- 1	GREEN LED
D3	81A 7- 2-	81A 7- 2-	LED
D3	81A 7- 2- 1	81A 7- 2- 1	GREEN LED
IC101	56A74LS-86- H	56A74LS 86- H	14 PIN IC
J1	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J2	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J3	95S 90- 22-	95S 90- 22-	#22 TIN COATED
P102	33T3072- 8-	33T3072- 8-	4P PLUG PLASTIC
Q101	57B 419- Q-	57B 419- Q-	TRANSISTOR
R1001	61A 602-333- 65	61A 602-333- 65	33K OHM 5% 1/6W
R1003	61A 602-153- 65	61A 602-153- 65	15K OHM 5% 1/6W
R101	61A 602-222- 65	61A 602-222- 65	2.2K OHM 5% 1/6W
R102	61A 602-563- 65	61A 602-563- 65	56K OHM 5% 1/6W
R103	61A 602-562- 65	61A 602-562- 65	5.6K OHM 5% 1/6W
R104	61A 602-222- 65	61A 602-222- 65	2.2K OHM 5% 1/6W
SW2	77A 401- 11-	77A 401- 11-	SLIDE SW
SW3	77A 401- 11-	77A 401- 11-	SLIDE SW
VR1	**75A 346-103-**	**75A 346-103-**	**CONTROL 10KB +–20%**
VR2	**75A 346-204-**	**75A 346-204-**	**CONTROL 200KB +–20%**
VR3	75A 346-203-	75A 346-203-	CONTROL 20KB +–20%
VR4	75A 346-103-	75A 346-103-	CONTROL 10KB +–20%
VR5	75A 346-501- A	75A 346-501- A	5000HM +–20%
VR6	75A 346-204-	75A 346-204-	CONTROL 200KB +–20%

APPL.	CMC-15F	CMC-15U	SPECIFICATION
	CMPC-15F	CMPC-15F	14" MANI BOARD
	CNPC-15F		CONTROL BOARD
		CNPC-15U	CONTROL BOARD
	CRPC-15	CRPC-15	CRT SOCKET BRD
	SGPC-15	SGPC-15	SIGNAL BOARD
	3C 1- 3-106	3C 1- 3-106	#6 E.T.
	3C 1- 40-106	3C 1- 40-106	LOCK WASHER
	5B 38- 16-	5B 38- 16-	RUBBER PAD
	15T5292- 2-	15T5292- 2-	TERNEPLATE
	15T5399- 1-	15T5399- 1-	TERNEPLATE
	19T 527- 1-	19T 527- 1-	STEEL WIRE
	33T3262- 9-	33T3262- 9-	A.B.S. PLASTIC
	40A 581- 26-011	40A 581- 26-011	LABEL/BLANK
	77A 306- 4-	77A 306- 4-	POWER SW (DPST)
	87A 501- 1-	87A 501- 1-	6A 250V AC
	87A 501- 3-	87A 501- 3-	AC SOCKET
	95S207T-354-033	95S207T-354-033	UL1015#18/GRN, YEL
	95A3253- 3- 1	95A3253- 3- 1	UL1015#20/3P HOUSING
	95A3253- 3- 2	95A3253- 3- 2	UL1015#20/3P HOUSING
	96 29- 6-200	96 29- 6-200	H.S. TUBING UL/CSA
	K1S 404-603-120	K1S 404-603-120	#6x3/8
	M1S 330- 7-128	M1S 330- 7-128	M3x7 STEEL
	M1S 440- 6-127	M1S 440- 6-127	M4x6
	700 99- 42-	700 99- 42-	AS REQUEST
SW805	77A 403- 3-	77A 403- 3-	SWITCH

APPL.	700 99- 42-	SPECIFICATION
	55C 1- 51-	SOLDER BAR
	55B 1- 56-	63/37 0.05" (1.27MM)
	55C 23- 13-	KESTER FLUX #933
	55C 23- 14-	THINNER #108

APPL.	CRPC-15	SPECIFICATION
	1T 420- 3-128	3MMx8 STEEL
	87A 400- 1-	CRT SOCKET
	95A1019-608- 3	UL2468#24/WHTx3C
	95A1019-608- 6	UL2464#24/6P HOUSING
	715A 295- 3-	122.0x110.0x1.6MM
C690	67S 201-471- 2	470UF +100–10% 10V
C901	67S 201-100- 10	10UF +100–10% 160V
C902	67A 201-109- 13	1UF +100–10% 350V
C903	67A 301-101- 3	100UF +100–10% 15V
C904	67A 301-229- 11	2.2UF +100–10% 200V
C905	67S 201-100- 11	10UF 200V
C906	65A517K-102- 2A	0.001UF 500V Z5U
C907	65S 450-103- 3	10000PF 50V Z5U
C909	65A 2M-103- 3B	0.01UF 2KV 20% Z5U
C910	65A517K-103- 1B	10000PF K Z5F 500V
C911	65A517K-103- 1B	10000PF K Z5F 500V
C912	65A517K-103- 1B	10000PF K Z5F 500V
C913	65A517K-103- 1B	10000PF K Z5F 500V
C914	67A 301-470- 3	47UF +100–10% 15V
C915	67A 301-470- 3	47UF +100–10% 15V
C916	67A 301-470- 3	47UF +100–10% 15V
C917	67A 301-229- 11	2.2UF +100–10% 200V
C918	67A 301-229- 11	2.2UF +100–10% 200V
C919	67A 301-229- 11	2.2UF +100–10% 200V
C920	67A 301-229- 11	2.2UF +100–10% 200V
C921	67A 301-229- 11	2.2UF +100–10% 200V
C922	67A 301-229- 11	2.2UF +100–10% 200V
D902	93C 60- 38-	1A 200V
D903	93C 60- 38-	1A 200V
D904	93C 60- 38-	1A 200V
J901	95S 90- 22-	#22 TIN COATED
J902	95S 90- 22-	#22 TIN COATED
J903	95S 90- 22-	#22 TIN COATED
J904	95S 90- 22-	#22 TIN COATED
J905	95S 90- 22-	#22 TIN COATED
J906	95S 90- 22-	#22 TIN COATED
J907	95S 90- 22-	#22 TIN COATED
J908	95S 90- 22-	#22 TIN COATED
J909	95S 90- 22-	#22 TIN COATED
J910	95S 90- 22-	#22 TIN COATED
J911	95S 90- 22-	#22 TIN COATED
L685	73C 259- 2-	30UH +/–15%
L901	73C 145-479-	4.7UF +–10%
L902	73C 145-479-	4.7UH +–10%
L903	73C 145-479	4.7UH +–10%
Q901	57A 545- 1-	TRANSISTOR
Q901	90T 185- 1-	ALUMINUM
Q902	57A 545- 1-	TRANSISTOR
Q902	90T 185- 1-	ALUMINUM
Q903	57A 545- 1-	TRANSISTOR
Q903	90T 185- 1-	ALUMINUM
R902	33T3072- 12-	3P PLUG PLASTIC
R902	61S 175-332- 64	3K3 OHM 5% 1/2W
R903	61S 172-564- 57	560K OHM 5% 1/4W

APPL.	CRPC-15	SPECIFICATION
R904	61S 175-333- 64	33K OHM 5% 1/2W
R905	61S 172-102- 57	1K OHM 5% 1/4W
R906	61S 172-102- 57	1K OHM 5% 1/4W
R907	61S 172-102- 57	1K OHM 5% 1/4W
R908	61S 172-102- 57	1K OHM 5% 1/4W
R909	61S 172-102- 57	1K OHM 5% 1/4W
R910	61S 172-102- 57	1K OHM 5% 1/4W
R911	61S155M-821- 61	820 OHM 5% 5W
R912	61S155M-821- 61	820 OHM 5% 5W
R913	61S155M-821- 61	820 OHM 5% 5W
R914	61S 172-563- 57	56K OHM 5% 1/4W
R915	61S 172-563- 57	56K OHM 5% 1/4W
R916	61S 172-563- 57	56K OHM 5% 1/4W
R920	61S 172-122- 57	1.2K OHM 5% 1/4W
R921	61S 172-122- 57	1.2K OHM 5% 1/4W
R922	61S 172-122- 57	1.2K OHM 5% 1/4W
R923	61S 172-104- 57	100K OHM 5% 1/4W
R924	61S 172-104- 57	100K OHM 5% 1/4W
R925	61S 172-104- 57	100K OHM 5% 1/4W
R926	61S 175-331- 64	330 OHM 5% 1/2W
R927	61S 175-331- 64	330 OHM 5% 1/2W
R928	61S 175-331- 64	330 OHM 5% 1/2W
VR903	75A 325-503-	50K OHM +−20%
VR904	75A 325-503-	50K OHM +−20%
VR905	75A 325-503-	50K OHM +−20%

APPL.	SGPC-15	SGPC-15F	SGPC-AI	SPECIFICATION
		SGPC-15		SIGNAL BOARD
	SGPC-AI			AUTO INSERTION
	9S 203- 8-	9S 203- 8-		BRASS
	15T5400- 2-			BRACKET
			52D 1-191-	GLASS CLOTH
			52D 1-192-	GLASS CLOTH
	95A1019-617- 4			UL2464#24/4P HOUSING
	M1S 330- 6-120			3MMx6 STEEL
			715A 293- 3-	138.0x150.0x1.6MM
C682	67S 201-471- 1			470UF +100–10% 6.3V
C688	67S 201-221- 3			220UF +100–10% 15V
C701	65A 452-104- 4			.1UF +80–20% 16V Z5V
C702	67A 301-100- 7			10UF +100–10% 50V
C703	65S 450-103- 3			10000PF 50V Z5U
C704	67A 301-479- 7			4.7UF +100–10% 50V
C705	67A 301-470- 3			47UF +100–10% 50V
C706	67A 301-109- 7			1UF +100–10% 50V
C707	65S 444-471- 1			470PF K Z5P 50V
C708	67A 301-109- 7			1UF +100–10% 50V
C709	64A 177- 17- 58			0.022UF J 50V
C710	64A 177- 17- 58			0.022UF J 50V
C711	64A 177- 17- 58			0.022UF J 50V
C714	65A 452-104- 4			.1UF +80–20% 16V Z5V
C715	67A 301-100- 7			10UF +100–10% 50V
C716	65S 444-102- 1			1000PF K Z5P 50V
C717	65S 444-102- 1			1000PF K Z5P 50V
C718	65S 444-102- 1			1000PF K Z5P 50V
C801	67A 301-101- 3			100UF +100–10% 15V
C802	67A 301-101- 3			100UF +100–10% 15V
C804	67A 301-470- 3			47UF +100–10% 15V
C805	67A 301-470- 3			47UF +100–10% 15V
C806	67A 301-470- 3			47UF +100–10% 15V
C808	67A 301-229- 7			2.2UF +100–10% 50V
C809	65A 452-104- 4			.1UF +80–20% 16V Z5V
C810	67S 201-221- 3			220UF +100–10% 15V
C812	67A 301-100- 7			10UF +100–10% 50V
C813	67A 301-100- 7			10UF +100–10% 50V
C814	65A 452-104- 4			.1UF +80–20% 16V Z5V
C817	64A 177- 1- 58			0.001UF J 50V
C818	65A 452-104- 4			.1UF +80–20% 16V Z5V
C819	67A 301-109- 7			1UF +100–10% 50V
C820	67A 301-229- 7			2.2UF +100–10% 50V
C821	64A 177- 3- 58			0.0015UF J 50V
C822	64A 177- 1- 58			0.001UF J 50V
C823	65A 452-104- 4			.1UF +80–20% 16V Z5V
C824	65A 452-104- 4			.1UF +80–20% 16V Z5V
C827	67S 201-221- 3			220UF +100–10% 15V
C828	65A 452-104- 4			.1UF +80–20% 16V Z5V
C829	67S 201-221- 3			220UF +100–10% 15V
C830	65S 442-120- 1			12PF J NPO 50V
D701			93C 64-11H-52T	DIODE
D702			93C 64-11H-52T	DIODE
D801			93C 64-11H-52T	DIODE
D802			93C 64-11H-52T	DIODE

APPL.	SGPC-15	SGPC-15F	SGPC-AI	SPECIFICATION
D803			93C 64-11H-52T	DIODE
D804			93C 64-11H-52T	DIODE
D805			93C 64-11H-52T	DIODE
D806			93C 64-11H-52T	DIODE
D807			93C 64-11H-52T	DIODE
D808			93C 64-11H-52T	DIODE
D809			93C 64-11H-52T	DIODE
D810			93C 64-11H-52T	DIODE
D822			93C 64-11H-52T	DIODE
D823			93C 64-11H-52T	DIODE
D824			93C 64-11H-52T	DIODE
IC701	56A 330- 1-			18 PIN IC
IC801	56A 74S-473-			20 PIN IC
IC804	56A 308- 1- H			14 PIN IC
IC805	56A74LS-123- H			16 PIN IC
IC805	56A74LS-123- M			16 PIN IC
IC805	56A74LS-123- T			16 PIN IC
IC806	56A74LS-136- H			14 PIN IC
IC806	56A74LS-136- M			14 PIN IC
IC806	56A74LS-136- T			14 PIN IC
J701			95S 90- 23- A	TIN COATED
J702			95S 90- 23- A	TIN COATED
J703			95S 90- 23- A	TIN COATED
J704			95S 90- 23- A	TIN COATED
J705			95S 90- 23- A	TIN COATED
J707			95S 90- 23- A	TIN COATED
J709			95S 90- 23- A	TIN COATED
J710			95S 90- 23- A	TIN COATED
J711			95S 90- 23- A	TIN COATED
J712			95S 90- 23- A	TIN COATED
J713			95S 90- 23- A	TIN COATED
J714			95S 90- 23- A	TIN COATED
J715			95S 90- 23- A	TIN COATED
J716			95S 90- 23- A	TIN COATED
J717			95S 90- 23- A	TIN COATED
J718			95S 90- 23- A	TIN COATED
J719			95S 90- 23- A	TIN COATED
J720			95S 90- 23- A	TIN COATED
J722			95S 90- 23- A	TIN COATED
J723			95S 90- 23- A	TIN COATED
J725			95S 90- 23- A	TIN COATED
J726			95S 90- 23- A	TIN COATED
J727			95S 90- 23- A	TIN COATED
J728			95S 90- 23- A	TIN COATED
J729			95S 90- 23- A	TIN COATED
J730			95S 90- 23- A	TIN COATED
J731			95S 90- 23- A	TIN COATED
J732			95S 90- 23- A	TIN COATED
J733			95S 90- 23- A	TIN COATED
J734			95S 90- 23- A	TIN COATED
J735			95S 90- 23- A	TIN COATED
J736			95S 90- 23- A	TIN COATED
J737			95S 90- 23- A	TIN COATED
J738			95S 90- 23- A	TIN COATED
J739			95S 90- 23- A	TIN COATED

APPL.	SGPC-15	SGPC-15F	SGPC-AI	SPECIFICATION
J740			95S 90- 23- A	TIN COATED
J741			95S 90- 23- A	TIN COATED
J742			95S 90- 23- A	TIN COATED
J743			95S 90- 23- A	TIN COATED
J744			95S 90- 23- A	TIN COATED
J745			95S 90- 23- A	TIN COATED
J746			95S 90- 23- A	TIN COATED
J747			95S 90- 23- A	TIN COATED
J748			95S 90- 23- A	TIN COATED
J749			95S 90- 23- A	TIN COATED
J750			95S 90- 23- A	TIN COATED
J751			95S 90- 23- A	TIN COATED
J752			95S 90- 23- A	TIN COATED
J753			95S 90- 23- A	TIN COATED
J757			95S 90- 23- A	TIN COATED
J758			95S 90- 23- A	TIN COATED
J759			95S 90- 23- A	TIN COATED
J760			95S 90- 23- A	TIN COATED
J765			95S 90- 23- A	TIN COATED
J767			95S 90- 23- A	TIN COATED
J770			95S 90- 23- A	TIN COATED
L681	73C 259- 2-			30UH +/−15%
L684	73C 259- 2-			30UH +/−15%
L804	73C 145-569-			5.6UH +−10%
L805	73C 145-569-			5.6UH +−10%
LC801	53A 40- 1-			.022UF +50−20 50V 7A
P701	33T3072- 8-			4P PLUG PLASTIC
P702	33T3072- 2-			6P PLUG PLASTIC
P801	33T3072- 14-			5P PLUG PLASTIC
P802	33A3072- 20-			10P PLUG PLASTIC
P803	33T3072- 16-			2P PLUG
P804	33T3072- 10-			8P PLUG PLASTIC
P805	33T3072- 8-			4P PLUG PLASTIC
Q701	57B 419- Q-			TRANSISTOR
Q702	57A 420- Q-			TRANSISTOR
Q703	57A 420- Q-			TRANSISTOR
Q704	57A 420- Q-			TRANSISTOR
Q706	57A 420- Q-			TRANSISTOR
Q707	57A 420- Q-			TRANSISTOR
Q708	57A 420- Q-			TRANSISTOR
Q709	57B 419- Q-			TRANSISTOR
Q710	57B 419- Q-			TRANSISTOR
Q711	57B 419- Q-			TRANSISTOR
Q801	57A 431- 3-			TRANSISTOR
Q802	57B 419- P-			TRANSISTOR
Q803	57B 420- P-			TRANSISTOR
Q804	57B 419- Q-			TRANSISTOR
Q805	57B 419- Q-			TRANSISTOR
Q806	57B 419- Q-			TRANSISTOR
Q807	57B 419- Q-			TRANSISTOR
Q808	57B 419- Q-			TRANSISTOR
Q809	57B 419- Q-			TRANSISTOR
Q810	57B 419- Q-			TRANSISTOR
Q811	57B 419- Q-			TRANSISTOR
Q812	57B 419- Q-			TRANSISTOR

APPL.	SGPC-15	SGPC-15F	SGPC-AI	SPECIFICATION
Q814	57B 419- Q-			TRANSISTOR
Q815	57B 419- Q-			TRANSISTOR
Q816	57B 419- Q-			TRANSISTOR
Q817	57B 419- P-			TRANSISTOR
Q818	57B 419- P-			TRANSISTOR
Q819	57B 419- P-			TRANSISTOR
Q820	57B 419- P-			TRANSISTOR
Q821	57B 419- P-			TRANSISTOR
Q822	57B 419- P-			TRANSISTOR
Q823	57B 419- P-			TRANSISTOR
Q824	57B 419- P-			TRANSISTOR
Q825	57B 419- P-			TRANSISTOR
Q828	57B 419- P-			TRANSISTOR
Q829	57B 419- P-			TRANSISTOR
R681			61S 172-102-52T	1K OHM 5% 1/4W
R684			61S 172-102-52T	1K OHM 5% 1/4W
R701			61S 602-103-52T	10K OHM 5% 1/6W
R702			61S 602-563-52T	56K OHM +–5% 1/6W
R703			61A 602-223-52T	22K OHM 5% 1/6W
R704			61A 602-272-52T	2.7K OHM 5% 1/6W
R705			61S 602-122-52T	1.2K OHM +5% 1/6W
R706			61S 602-102-52T	1K OHM 5% 1/6W
R707			61A 602-222-52T	2.2K OHM +–5% 1/6W
R708			61A 602-103-52T	10K OHM 5% 1/6W
R709			61S 602-221-52T	220 OHM +–5% 1/6W
R710			61S 602-103-52T	10K OHM 5% 1/6W
R711			61S 602-221-52T	220 OHM +–5% 1/6W
R712			61A 602-332-52T	3.3K OHM 5% 1/6W
R713			61S 602-101-52T	100 OHM 5% 1/6W
R716			61S 602-221-52T	220 OHM +–5% 1/6W
R718			61A 602-332-52T	3.3K OHM 5% 1/6W
R719			61S 602-101-52T	100 OHM 5% 1/6W
R720			61S 602-101-52T	100 OHM 5% 1/6W
R721			61S 602-101-52T	100 OHM 5% 1/6W
R722			61S 172-471-52T	470 OHM 5% 1/4W
R723			61S 172-471-52T	470 OHM 5% 1/4W
R724			61S 172-471-52T	470 OHM 5% 1/4W
R725			93C 64-11H-52T	DIODE
R726			93C 64-11H-52T	DIODE
R727			93C 64-11H-52T	DIODE
R728			61S 602-122-52T	1.2K OHM +5% 1/6W
R732			61S 602-120-52T	12 OHM +–5% 1/6W
R733			61S 602-120-52T	12 OHM +–5% 1/6W
R734			61S 602-120-52T	12 OHM +–5% 1/6W
R735			61S 602-120-52T	12 OHM +–5% 1/6W
R736			61S 602-120-52T	12 OHM +–5% 1/6W
R737			61S 602-120-52T	12 OHM +–5% 1/6W
R801			61S 602-122-52T	1.2K OHM +5% 1/6W
R802			61S 602-122-52T	1.2K OHM +5% 1/6W
R803			61S 175-751-52T	750 OHM +–5% 1/2W
R804			61A 602-222-52T	2.2K OHM +–5% 1/6W
R805			61A 602-222-52T	2.2K OHM +–5% 1/6W
R806			61S 602-102-52T	1K OHM 5% 1/6W
R807			61A 602-392-52T	3.9K OHM 5% 1/6W
R809			61S 602-102-52T	1K OHM 5% 1/6W

APPL.	SGPC-15	SGPC-15F	SGPC-AI	SPECIFICATION
R810			61S 172-151-52T	150 OHM 5% 1/4W
R811			61S 602-751-52T	750 OHM +–5% 1/6W
R812			61A 602-681-52T	680 OHM +–5% 1/6W
R813			61S 602-152-52T	1.5K OHM +–5% 1/6W
R814			61A 602-681-52T	680 OHM +–5% 1/6W
R815			61S 602-152-52T	1.5K OHM +–5% 1/6W
R816			61A 602-822-52T	8.2K OHM +–5% 1/6W
R817			61A 602-332-52T	3.3K OHM 5% 1/6W
R818			61S 602-111-52T	110 OHM +–5% 1/6W
R819			61S 172-820-52T	82 OHM +–5% 1/4W
R821			61S 602-102-52T	1K OHM 5% 1/6W
R822			61S 172-151-52T	150 OHM 5% 1/4W
R823			61A 602-751-52T	750 OHM +–5% 1/6W
R824			61A 602-681-52T	680 OHM +–5% 1/6W
R825			61S 602-152-52T	1.5K OHM +–5% 1/6W
R826			61A 602-681-52T	680 OHM +–5% 1/6W
R827			61S 602-152-52T	1.5K OHM +–5% 1/6W
R828			61A 602-822-52T	8.2K OHM +–5% 1/6W
R829			61A 602-332-52T	3.3K OHM 5% 1/6W
R830			61S 602-111-52T	110 OHM +–5% 1/6W
R831			61S 172-820-52T	82 OHM +–5% 1/4W
R832			61A 602-222-52T	2.2K OHM +–5% 1/6W
R833			61S 602-102-52T	1K OHM 5% 1/6W
R834			61S 172-151-52T	150 OHM 5% 1/4W
R835			61S 602-751-52T	750 OHM +–5% 1/6W
R836			61A 602-681-52T	680 OHM +–5% 1/6W
R837			61S 602-152-52T	1.5K OHM +–5% 1/6W
R838			61A 602-681-52T	680 OHM +–5% 1/6W
R839			61S 602-152-52T	1.5K OHM +–5% 1/6W
R840			61A 602-822-52T	8.2K OHM +–5% 1/6W
R841			61A 602-332-52T	3.3K OHM 5% 1/6W
R842			61S 602-111-52T	110 OHM +–5% 1/6W
R843			61S 172-820-52T	82 OHM +–5% 1/4W
R845			61A 602-561-52T	560 OHM +–5% 1/6W
R850			61A 602-562-52T	5.6K OHM 5% 1/6W
R851			61A 602-562-52T	5.6K OHM 5% 1/6W
R852			61S 602-471-52T	470 OHM +–5% 1/6W
R853			61A 602-272-52T	2.7K OHM 5% 1/6W
R854			61A 602-103-52T	10K OHM 5% 1/6W
R855			61A 602-823-52T	82K OHM +–5% 1/6W
R856			61A 602-103-52T	10K OHM 5% 1/6W
R857			61S 602-122-52T	1.2K OHM +5% 1/6W
R858			61S 602-221-52T	220 OHM +–5% 1/6W
R859			61A 602-222-52T	2.2K OHM +–5% 1/6W
R860			61S 602-563-52T	56K OHM +–5% 1/6W
R861			61A 602-332-52T	3.3K OHM 5% 1/6W
R862			61A 602-332-52T	3.3K OHM 5% 1/6W
R863			61A 602-222-52T	2.2K OHM +–5% 1/6W
R864			61A 602-331-52T	330 OHM 5% 1/6W
R865			61A 602-822-52T	8.2K OHM +–5% 1/6W
R866			61A 602-222-52T	2.2K OHM +–5% 1/6W
R867			61A 602-272-52T	2.7K OHM 5% 1/6W
R868			61A 602-123-52T	12K OHM 5% 1/6W
R869			61A 602-562-52T	5.6K OHM 5% 1/6W
R870			61A 602-562-52T	5.6K OHM 5% 1/6W

APPL.	SGPC-15	SGPC-15F	SGPC-AI	SPECIFICATION
R871			61A 602-222-52T	2.2K OHM +-5% 1/6W
R872			61A 602-822-52T	8.2K OHM +-5% 1/6W
R873			61A 602-822-52T	8.2K OHM +-5% 1/6W
R874			61A 602-332-52T	3.3K OHM 5% 1/6W
R875			61A 602-103-52T	10K OHM 5% 1/6W
R876			61A 602-562-52T	5.6K OHM 5% 1/6W
R878			61A 602-222-52T	2.2K OHM +-5% 1/6W
R879			61A 602-222-52T	2.2K OHM +-5% 1/6W
R881			61A 602-222-52T	2.2K OHM +-5% 1/6W
R882			61A 602-331-52T	330K OHM +-5% 1/6W
R884			61A 602-562-52T	5.6K OHM 5% 1/6W
R886			61S 602-109-52T	1OHM +-5% 1/6W
R887			61A 602-392-52T	3.9K OHM 5% 1/6W
R888			61S 602-122-52T	1.2K OHM +5% 1/6W
R890			61A 602-511-52T	510 OHM +-5% 1/6W
R895			61A 602-822-52T	8.2K OHM +-5% 1/6W
R896			61A 602-394-52T	390K OHM +-5% 1/6W
R897			61A 602-223-52T	22K OHM 5% 1/6W
R898			61A 602-223-52T	22K OHM 5% 1/6W
R899			61A 602-332-52T	3.3K OHM 5% 1/6W
R8A1			61S 602-563-52T	56K OHM +-5% 1/6W
R8A2			61S 602-563-52T	56K OHM +-5% 1/6W
R8A4			61S 602-563-52T	56K OHM +-5% 1/6W
R8A5			61S 602-563-52T	56K OHM +-5% 1/6W
R8A6			61S 602-563-52T	56K OHM +-5% 1/6W
R8A7			61S 602-563-52T	56K OHM +-5% 1/6W
R8A8			61S 602-563-52T	56K OHM +-5% 1/6W
R8B1			61S 602-471-52T	470 OHM +-5% 1/6W
R8B2			61S 602-471-52T	470 OHM +-5% 1/6W
R8B4			61S 602-471-52T	470 OHM +-5% 1/6W
R8B5			61S 602-471-52T	470 OHM +-5% 1/6W
R8B6			61S 602-471-52T	470 OHM +-5% 1/6W
R8B7			61S 602-471-52T	470 OHM +-5% 1/6W
R8B8			61S 602-471-52T	470 OHM +-5% 1/6W
SW801	77A 413- 1-			SIGNAL SW
VR701	75A 323-501-			500 OHM +-20%
VR702	75A 323-501-			500 OHM +-20%
VR703	75A 323-501-			500 OHM +-20%
ZD801			93D 39- 80-52T	9.1V +-5% 1/2W
ZD802			93D 39- 52-52T	DIODE

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
		CM314-AI		AUTO INSERTION
			CMPC-15	14" MAIN BOARD
		1T 420- 3-120		3MMx8 STEEL
		2T 202- 2-		STAINLESS STEEL
		5B 38- 8-		RUBBER WASHER
		5B 39- 8-		WASHER
		9A 92- 13-		BRASS
			9S 203- 8-	BRASS
		9S 206- 5-		CONNECTOR
		11T 84- 1-		NYLON
		15T5316- 1-		TERNEPLATE
		32 3028- 3-		MICA
			40 154- 8-	LABEL
			40 156- 15- 1	WARNING LABEL
	52D 1-191-			GLASS CLOTH
	52D 1-192-			GLASS CLOTH
		90T 186- 2-		ALUMINUM
		90 189- 6-		HEAT SINK
		90 208- 2-		HEAT SINK
		95S 203- 30-102		UL1015#18/BLK
		95S 203- 32-102		UL1015#18/RED
		95S 203- 33-102		UL1015#18/ORG
		95S 203- 36-102		UL1015#18/BLUE
		95S 203- 59-152		UL1007#22/WHT STRAND
		95A1019-607- 4		UL2464#24/4P HOUSING
		95A1019-610- 4		UL2464#24/4P HOUSING
		95S3261- 2-		UL1015#22/WHT
		K1S 330- 10-128		M3x10
		K1S 330- 14-128		M3x14
		K1S 404-603-120		#6x3/8
		M2S 430-2.4-128		M3
	715A 294- 3-			246.0x278.0x1.6MM
C2001		67A 301-470- 7		47UF +100–10% 50V
C2002		67A 301-470- 3		47UF +100–10% 15V
C2004		67A 301-100- 7		10UF +100–10% 50V
C2006		67A 301-470- 3		47UF +100–10% 15V
C401		67A 301-101- 3		100UF +100–10% 15V
C402		64A 177- 2- 58		0.0012UF J 50V
C403		64A 177- 25- 57		0.1UF J 50V
C404		64A 177- 10- 58		0.0056UF J 50V
C405		64A 177- 17- 58		0.022UF J 50V
C406		64A 177- 21- 58		0.047UF J 50V
C407		67S 202-688- 7		0.68U 35V +–10%
C408		67S 201-222- 4		2200UF +100–10% 25V
C409		67S 201-221- 6		220UF +100–10% 35V
C410		67S 201-101- 6		100UF +100–10% 35V
C411		65S 444-561- 1		560PF K Z5P 50V
C412		65S 444-101- 1		100PF K Z5P 50V
C413		67S 202-478- 7		0.47U 35V +–10%
C414		67A 301-101- 4		100UF +100–10% 25V
C415		67A 402-109- 7		1UF 50V +–20%
C416		67A 60-220- 3		22UF 16V NP
C417		65S 450-472- 3		.0047UF Z5U 50V
C419		65S 444-102- 1		1000PF K Z5P 50V
C420		65S 444-561- 1		560PF K Z5P 50V

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
C421		65S 450-103- 3		10000PF 50V Z5U
C422		67S 201-101- 6		100UF +100–10% 35V
C460		67S 202-109- 7		1UF +–10% 35V
C461		67A 301-470- 3		47UF +100–10% 15V
C462		67A 301-100- 7		10UF +100–10% 50V
C463		67A 301-100- 7		10UF +100–10% 50V
C464		67A 301-100- 7		10UF +100–10% 50V
C465		67A 301-100- 7		10UF +100–10% 50V
C466		67S 202-109- 7		1UF +–10% 35V
C467		65A 452-104- 4		.1UF +80–20% 16V Z5V
C470		67A 301-470- 3		47UF +100–10% 15V
C501		65S 442-101- 1		100PF J NPO 50V
C502		64A 103- 54-		.0022UF +/–5% 50V
C503		65S 442-271- 1		270PF 5% 50V NPO
C504		64A 177- 11- 58		0.0068UF J 50V
C505		67S 202-109- 7		1UF +–10% 35V
C506		64A 177- 13- 58		0.01UF J 50V
C507		67S 202-109- 7		1UF +–10% 35V
C508		64A 103- 55-		.0033UF +/–5% 50V
C509		67S 201-221- 3		220UF +100–10% 15V
C510		64A 177- 13- 58		0.01UF J 50V
C511		67A 402-109- 7		1UF 50V +–20%
C512		65S 444-102- 1		1000PF K Z5P 50V
C513		63A 210- 29-		3600PF J 2KV
C514		63A 210- 30-		4300PF J 2KV
C515		64A 140- 53- 64		.027UF +/–5% 400V
C516		67S 201-100- 10		10UF +100–10% 160V
C517		64A 140- 52- 64		0.022UF J 400V
C518		67S 201-100- 11		10UF 200V
C519		67S 201-220- 9		22UF +100–10% 100V
C520		65A517K-561-2A		560PF K Z5P 500V
C521		65A517K-331-2A		330PF K Z5P 500V
C522		63A 210- 34-		640000PF 200V
C523		63A 210- 33-		68000PF 1KV
C524		65A517K-221-2A		220PF K Z5P 500V
C526		64A 177- 25- 57		0.1UF J 50V
C527		65S 444-102- 1		1000PF K Z5P 50V
C551		64A 177- 3- 58		0.0015UF J 50V
C552		67S 202-229- 7		2.2UF +–10% 35V
C553		67A 301-470- 4		47UF +100–10% 25V
C557		63A 210- 34-		640000PF 200V
C558		63A 210- 34-		640000PF 200V
C559		65S 450-103- 3		10000PF 50V Z5U
C560		65S 450-103- 3		10000PF 50V Z5U
C561		65S 450-103- 3		10000PF 50V Z5U
C562		65S 442-101- 1		100PF J NPO 50V
C563		64A 103- 54-		.0022UF +/–5% 50V
C565		64A 103- 16-		.01UF K 50V
C566		64A 103- 56-		.0039UF +/–5% 50V
C567		65S 444-102- 1		1000PF K Z5P 50V
C568		65S 444-681- 1		680PF K Z5P 50V
C601			63S 107- 1-	.1UF M 250V AC
C602			63S 101- 18-	.047UF M 125/250V
C603			65A307M-222- 2B	2200PF +–20% 400V AC
C604			65A307M-222- 2B	2200PF +–20% 400V AC

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
C606		65A517K-472-1B		4700PF K Z5F 500V
C607		65A517K-472-1B		4700PF K Z5F 500V
C603		65A517K-472-1B		4700PF K Z5F 500V
C609		65A517K-472-1B		4700PF K Z5F 500V
C610			67D 30- 38-	470UF 200V
C611			67D 30- 38-	470UF 200V
C612			95S 90- 22-	#22 TIN COATED
C613			65A305M-472-2B	4700P +−20% 400VAC
C621		65A 2K-561-2BN		560PF K 2KV BN
C622		67A 301-220- 4		22UF +100−10% 25V
C623		67A 301-220- 4		22UF +100−10% 25V
C624		64A 177- 58- 57		0.1UF 100V 5%
C641		67D 30- 38-		470UF 200V
C642		67A 301-478- 10		.47UF +100−10% 160V
C643		64A 177- 13- 58		0.01UF J 50V
C661		64A 177- 27- 57		0.15UF J 50V
C662		67A 301-100- 7		10UF +100−10% 50V
C663		65A 2K-561-2BN		560PF K 2KV BN
C664		65S 450-473- 4		.047UF Z5V 50V
C665		67S 201-471- 2		470UF +100−10% 10V
C666		67A 301-101- 2		100UF +100−10% 10V
C681		67S 201-102- 1		1000UF +100−10% 6.3V
C683		67S 201-101- 9		100UF +100−10% 100V
C684		67S 201-470- 9		47UF +100−10% 100V
C685		67S 201-102- 6		1000UF +100−10% 35V
C686		67S 201-331- 6		330UF +100−10% 35V
C687		67S 201-102- 3M		1000UF +100−10% 15V
C689		67S 201-102- 2		1000UF +100−10% 10V
C691		64A 177- 1- 58		0.001UF J 50V
D2001	93C 60- 38-52T			1A 200V
D2002	93C 64-11H-52T			DIODE
D2004	93C 60- 38-52T			1A 200V
D2005	93C 64-11H-52T			DIODE
D401	93C 64-11H-52T			DIODE
D402	93C 64-11H-52T			DIODE
D403	93C 64-11H-52T			DIODE
D404	93C 60- 38-52T			1A 200V
D405	93C 64-11H-52T			DIODE
D460	93C 64-11H-52T			DIODE
D461	93C 64-11H-52T			DIODE
D462	93C 64-11H-52T			DIODE
D470	93C 60- 38-52T			1A 200V
D501	93C 60- 81-52T			F.R.D. 1450V/5A
D502	93D 60- 62-52T			1A/1500V 250N.S.
D503	93C 60- 38-52T			1A 200V
D504	93C 60- 38-52T			1A 200V
D505	93C 60- 38-52T			1A 200V
D551	93C 64-11H-52T			DIODE
D552	93C 64-11H-52T			DIODE
D553	93C 64-11H-52T			DIODE
D554	93C 60- 38-52T			1A 200V
D555	93C 60- 38-52T			1A 200V
D556	93C 64-11H-52T			DIODE
D601	93C 52- 9-52T			2A 600V
D602	93C 52- 9-52T			2A 600V
D507	93C 60- 81-52T			F.R.D 1450V/5A
D506	93C 64-11M			DIODE

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
D603	93C 52- 9-52T		⚠	2A 600V
D604	93C 52- 9-52T			2A 600V
D605	**93C 52- 14-52T**			**50A/1A RECTIFIER**
D606	**93C 52- 14-52T**			**50A/1A RECTIFIER**
D607	**93C 52- 14-52T**			**50A/1A RECTIFIER**
D608	**93C 52- 14-52T**			**50A/1A RECTIFIER**
D621	93C 64-11H-52T			DIODE
D622	93C 60- 77-52T			F.R.D. 100V/1A
D641	93C 60- 71-52T			F.R.D. 400V/1.5A
D642	93C 64-11H-52T			DIODE
D644	93C 64-11H-52T			DIODE
D661	93C 60- 47-52T			F.R.D. 600V/0.5A
D662	93C 60- 77-52T			F.R.D. 100V/1A
D665	93C 60- 77-52T			F.R.D. 100V/1A
D666	93C 64-11H-52T			DIODE
D668	93C 60- 77-52T			F.R.D. 100V/1A
D682	93D 60- 21-52T			FRD 1.5A 500V
D683		93D 60- 70-		3A 600V FRD
D683	93C 60- 70-52T			F.R.D. 600V/3A
D684	93D 60- 72-52T			F.R.D. 1A 200V
D685		93D 60- 93-		3A 40V SR340
D686	93C 64-11H-52T			DIODE
F601			84C 7- 45-	FUSE 2.5A 250V S-B
FH001		84B 33- 4-		FUSE CLIP
FH001		84C 33- 7-		FUSE CLIP
IC401		56A 326- 1-		20 PIN I.C
IC402		56A 327- 1-		7 PIN I.C
IC451		56A74LS-221- H		16 PIN IC
IC551		56A 329- 1-		8 PIN I.C
IC552		56A 328- 1-		IC
IC553		56A 210- 2-		IC
IC554		56A 328- 1-	⚠	IC
IC555		56A 265- 2-		IC
IC621		**56A 161- 1-**		**4 PIN IC PC817**
IC622		**56A 161- 1-**		**4 PIN IC PC817**
IC641		56A 158- 1-		3 PIN IC
IC661		**56A 161- 1-**		**4 PIN IC PC817**
J701			95S 90- 22-	#22 TIN COATED
J701	95S 90- 23- A			TIN COATED
J702	95S 90- 23- A			TIN COATED
J703	95S 90- 23- A			TIN COATED
J704	95S 90- 23- A			TIN COATED
J705	95S 90- 23- A			TIN COATED
J706	95S 90- 23- A			TIN COATED
J707	95S 90- 23- A			TIN COATED
J708	95S 90- 23- A			TIN COATED
J709	95S 90- 23- A			TIN COATED
J710	95S 90- 23- A			TIN COATED
J711	95S 90- 23- A			TIN COATED
J712	95S 90- 23- A			TIN COATED
J713	95S 90- 23- A			TIN COATED
J714	95S 90- 23- A			TIN COATED
J715	95S 90- 23- A			TIN COATED
J716	95S 90- 23- A			TIN COATED
J717	95S 90- 23- A			TIN COATED

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
J718	95S 90- 23- A			TIN COATED
J719	95S 90- 23- A			TIN COATED
J720	95S 90- 23- A			TIN COATED
J721	95S 90- 23- A			TIN COATED
J722	95S 90- 23- A			TIN COATED
J723	95S 90- 23- A			TIN COATED
J724	95S 90- 23- A			TIN COATED
J725	95S 90- 23- A			TIN COATED
J726	95S 90- 23- A			TIN COATED
J727	95S 90- 23- A			TIN COATED
J728	95S 90- 23- A			TIN COATED
J729	95S 90- 23- A			TIN COATED
J730	95S 90- 23- A			TIN COATED
J731	95S 90- 23- A			TIN COATED
J733	95S 90- 23- A			TIN COATED
J734	95S 90- 23- A			TIN COATED
J735	95S 90- 23- A			TIN COATED
J736	95S 90- 23- A			TIN COATED
J737	95S 90- 23- A			TIN COATED
J738	95S 90- 23- A			TIN COATED
J739	95S 90- 23- A			TIN COATED
J740	95S 90- 23- A			TIN COATED
J741	95S 90- 23- A			TIN COATED
J742	95S 90- 23- A			TIN COATED
J743	95S 90- 23- A			TIN COATED
J744	95S 90- 23- A			TIN COATED
J745	95S 90- 23- A			TIN COATED
J746	95S 90- 23- A			TIN COATED
J747	95S 90- 23- A			TIN COATED
J748	95S 90- 23- A			TIN COATED
J749	95S 90- 23- A			TIN COATED
J750	95S 90- 23- A			TIN COATED
J751	95S 90- 23- A			TIN COATED
J752	95S 90- 23- A			TIN COATED
J753	95S 90- 23- A			TIN COATED
J754	95S 90- 23- A			TIN COATED
J755	95S 90- 23- A			TIN COATED
J756	95S 90- 23- A			TIN COATED
J757	95S 90- 23- A			TIN COATED
J758	95S 90- 23- A			TIN COATED
J759	95S 90- 23- A			TIN COATED
J760	95S 90- 23- A			TIN COATED
J761	95S 90- 23- A			TIN COATED
J762	95S 90- 23- A			TIN COATED
J763	95S 90- 23- A			TIN COATED
J764	95S 90- 23- A			TIN COATED
J765	95S 90- 23- A			TIN COATED
J766	95S 90- 23- A			TIN COATED
J832	95S 90- 23- A			TIN COATED
L501		73C 253- 37-		50UH
L502		73C 253- 32-		5.6UH 3A
L504		73C 147- 26-		8.2UH +/−15%
L505		94A 483- 21-		WIDTH COIL
L507		73A 253- 42-		5.4MH 800MA
L601			73C 173- 1-	10MH

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
L602			73C 173- 2-	3MH
L621		73C 259- 1-		10UH +/−15%
L661		73C 259- 4-		200UH +/−5%
L662		73C 259- 3-		100UH +/−10%
L682		73C 259- 4-		200UH +/−5%
L683		73C 259- 2-		30UH +/−15%
LC401		53A 40- 1-		.022UF +50−20 50V 7A
N001		50B 13- 1-		PLASTIC TIE
N001		50T 106- 1-		CABLE TIE
P401		33T3072- 2-		6P PLUG PLASTIC
P500		33T3074- 5-		6P PLUG
P502		33T3072- 8-		4P PLUG PLASTIC
P503		33T3074- 1-		2P PLUG
P601		33A3355- 1-		2 PIN PLUG
P602		33T3074- 1-		2P PLUG
P603		33A3355- 1-		2 PIN PLUG
P604		33A3355- 1-		2 PIN PLUG
P605		33T3072- 12-		3P PLUG PLASTIC
Q2001		57A 420- Q-		TRANSISTOR
Q2002		57B 419- Q-		TRANSISTOR
Q401		57B 419- Q-		TRANSISTOR
Q402		57A 549- 1-		TRANSISTOR
Q403		57A 507- L-		TRANSISTOR
Q404		57B 419- Q-		TRANSISTOR
Q405		57A 553- 1-		TRANSISTOR
Q460		57A 420- Q-		TRANSISTOR
Q501		57B 419- Q-		TRANSISTOR
Q502		57A 521- C-		TRANSISTOR
Q503		57A 551- 1-		TRANSISTOR
Q504		57B 419- Q-		TRANSISTOR
Q551		57A 552- P-		TRANSISTOR
Q551		57A 552- Q-		TRANSISTOR
Q552		57B 419- Q-		TRANSISTOR
Q554		57A 554- 1-		TRANSISTOR
Q557		57A 554- 3-		TRANSISTOR
Q558		57A 554- 3-		TRANSISTOR
Q621		57A 560- 1-		TRANSISTOR
Q621		57A 573- 1-		TRANSISTOR
Q622		57A 446- 1-		TRANSISTOR
Q641		57A 423- 8T-		TRANSISTOR
Q661		57A 560- 1-		TRANSISTOR
Q661		57A 573- 1-		TRANSISTOR
Q662		57A 507- 1-		TRANSISTOR
Q662		57A 507- 2-		TRANSISTOR
Q663		57A 446- 1-		TRANSISTOR
Q664		57B 419- P-		TRANSISTOR
Q665		57A 446- 1-		TRANSISTOR
Q681		57B 419- P-		TRANSISTOR
R2001	61S 172-229-52T			2.2 OHM +−5% 1/4W
R2002	61S 172-682-52T			6.8K OHM 5% 1/4W
R2004	61A 602-682-52T			6.8K OHM 5% 1/6W
R2005	61A 602-222-52T			2.2K OHM 5% 1/6W
R2006	61A 602-103-52T			10K OHM 5% 1/6W
R2007	61S 172-229-52T			2.2 OHM +−5% 1/4W
R2008	61A 602-682-52T			6.8K OHM 5% 1/6W

APPL.	CM314-AI	CMPC-15	CMPC-15F	⚠	SPECIFICATION
R2009	61A 602-222-52T				2.2K OHM 5% 1/6W
R2010	61A 602-103-52T				10K OHM 5% 1/6W
R2011	61A 602-123-52T				12K OHM 5% 1/6W
R401		61S152M-221- 64			220 OHM 5% 2W
R402		61A 602-364- 65			360K OHM +/–5% 1/6W
R403		61A 602-563- 65			56K OHM 5% 1/6W
R404		61A 602-473- 65			47K OHM 5% 1/6W
R405		61A 602-331- 65			330 OHM 5% 1/6W
R406		61A 602-561- 65			560 OHM 5% 1/6W
R407		61S152M-189- 64			1.8 OHM +/–5% 2W
R408			61S 175-471- 64		470 OHM 5% 1/2W
R409	61A 602-472-52T				4.7K OHM 5% 1/6W
R410	61S 602-152-52T				1.5K OHM +–5% 1/6W
R411		61A 602-332- 63			3.3K OHM 5% 1/6W
R412	61A 602-153-52T				15K OHM 5% 1/6W
R413		61S152M-221- 64			220 OHM 5% 2W
R414	61S 172-220-52T				22 OHM 5% 1/4W
R415		61A 602-333- 65			33K OHM 5% 1/6W
R416	61A 602-472-52T				4.7K OHM 5% 1/6W
R417		61A 602-104- 65			100K OHM 5% 1/6W
R418	61A 602-822-52T				8.2K OHM +–5% 1/6W
R419	61S 172-102-52T				1K OHM 5% 1/4W
R420	61S 602-101-52T				100 OHM 5% 1/6W
R421	61A 602-562-52T				5.6K OHM 5% 1/6W
R422	61A 602-223-52T				22K OHM 5% 1/6W
R423		61S 175-151- 64			150 OHM 5% 1/2W
R425		61A 602-183- 65			18K OHM 5% 1/6W
R426	61A 602-222-52T				2.2K OHM +–5% 1/6W
R428	61A 602-223-52T				22K OHM 5% 1/6W
R429	61S 602-101-52T				100 OHM 5% 1/6W
R430	61S 602-101-52T				100 OHM 5% 1/6W
R432		61A 602-824- 65			820K OHM +/–5% 1/6W
R433	61A 602-472-52T				4.7K OHM 5% 1/6W
R460	61A 602-222-52T				2.2K OHM +–5% 1/6W
R461		61A 602-103- 65			10K OHM 5% 1/6W
R462	61S 172-471-52T				470 OHM 5% 1/4W
R463	61A 602-562-52T				5.6K OHM 5% 1/6W
R464	61S 172-471-52T				470 OHM 5% 1/4W
R465		61A 602-203- 65			20K OHM 5% 1/6W
R466	61A 602-184-52T				180K OHM +–5% 1/6W
R467	61A 602-562-52T				5.6K OHM 5% 1/6W
R468	61A 602-562-52T				5.6K OHM 5% 1/6W
R469	61A 602-562-52T				5.6K OHM 5% 1/6W
R470	61A 602-103-52T				10K OHM 5% 1/6W
R471	61A 602-222-52T				2.2K OHM +–5% 1/6W
R472	61A 602-123-52T				12K OHM 5% 1/6W
R473		61A 602-334- 65			330K OHM 5% 1/6W
R474	61A 602-823-52T				82K OHM +–5% 1/6W
R475	61A 602-103-52T				10K OHM 5% 1/6W
R476		61A 602-393- 65			39K OHM 5% 1/6W
R500		61S152M-339- 64			3.3 OHM 5% 2W
R501	61S 602-102-52T				1K OHM 5% 1/6W
R503		61A 602-122- 65			1.2K OHM 5% 1/6W
R504	61A 602-392-52T				3.9K OHM 5% 1/6W
R505	61A 602-223-52T				22K OHM 5% 1/6W

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
R506	61A 602-123-52T			12K OHM 5% 1/6W
R507	61S 602-102-52T			1K OHM 5% 1/6W
R508	61A 602-223-52T			22K OHM 5% 1/6W
R509	61A 602-823-52T			82K OHM +-5% 1/6W
R510		61A 602-333- 65		33K OHM 5% 1/6W
R511	61A 602-822-52T			8.2K OHM +-5% 1/6W
R512	61S 602-102-52T			1K OHM 5% 1/6W
R513	61A 602-103-52T			10K OHM 5% 1/6W
R514	61S 177-123-52T			12K OHM +-1% 1/4W
R515	61S 177-123-52T			12K OHM +-1% 1/4W
R516	61S 602-102-52T			1K OHM 5% 1/6W
R517		61A 602-471- 65		470 OHM 5% 1/6W
R518		61S 175-751- 64		750 OHM 5% 1/2W
R519		61S153M-221- 64		220 OHM 5% 3W
R521		61S 175-510- 64		51 OHM 5% 1/2W
R522	61S 172-479-52T			4.7 OHM +-5% 1/4W
R523	61S 172-229-52T			2.2 OHM +-5% 1/4W
R524	61S 175-471-52T			470 OHM +-5% 1/2W
R525		61S 175-331- 64		330 OHM 5% 1/2W
R526		61S 175-759- 64		7.5 OHM +/-5% 1/2W
R527		61S 175-105- 64		1MEG OHM 5% 1/2W
R528		61S 175-105- 64		1MEG OHM 5% 1/2W
R529		61S 175-105- 64		1MEG OHM 5% 1/2W
R530	61A 602-184-52T			180K OHM +-5% 1/6W
R531	61A 602-103-52T			10K OHM 5% 1/6W
R532	61S 602-152-52T			1.5K OHM +-5% 1/6W
R534	61S 602-102-52T			1K OHM 5% 1/6W
R536		61A 602-105- 65		1M OHM 5% 1/6W
R551	61A 602-103-52T			10K OHM 5% 1/6W
R552	61A 602-103-52T			10K OHM 5% 1/6W
R553		61A 602-124- 65		120K OHM 5% 1/6W
R554	61A 602-472-52T			4.7K OHM 5% 1/6W
R555	61A 602-823-52T			82K OHM +-5% 1/6W
R556	61S 177-392-52T			3.9K OHM +-1% 1/4W
R557	61S 177-273-52T			27K OHM +-1% 1/4W
R558	61S 172-103-52T			10K OHM 5% 1/4W
R559	61S 177-203-52T			20K OHM +-1% 1/4W
R560	61S 177-123-52T			12K OHM +-1% 1/4W
R562	61S 177-124-52T			120K OHM +-1% 1/4W
R563	61A 602-153-52T			15K OHM 5% 1/6W
R564	61S 172-475-52T			4.7M OHM +-5% 1/4W
R565	61S 177-204-52T			200K OHM +-1% 1/4W
R566	61S 177-124-52T			120K OHM +-1% 1/4W
R567	61A 602-153-52T			15K OHM 5% 1/6W
R568	61S 172-475-52T			4.7M OHM +-5% 1/4W
R569	61S 177-124-52T			120K OHM +-1% 1/4W
R570	61S 177-134-52T			130K OHM +-1% 1/4W
R571	61A 602-153-52T			15K OHM 5% 1/6W
R572	61S 172-475-52T			4.7M OHM +-5% 1/4W
R573	61S 177-274-52T			270K OHM +-1% 1/4W
R574	61A 602-153-52T			15K OHM 5% 1/6W
R575	61S 177-561-52T			560 OHM +-1% 1/4W
R576	61S 177-683-52T			68K OHM +-1% 1/4W
R577	61S 177-124-52T			120K OHM +-1% 1/4W
R578	61S 177-474-52T			470K OHM +-1% 1/4W

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
R579	61S 177-753-52T			75K OHM +-1% 1/4W
R581	61S 177-104-52T			100K OHM +-1% 1/4W
R582	61S 177-104-52T			100K OHM +-1% 1/4W
R583	61S 177-104-52T			100K OHM +-1% 1/4W
R584	61S 177-473-52T			47K OHM +-1% 1/4W
R587	61S 172-479-52T			4.7 OHM +-5% 1/4W
R588	61A 602-222-52T			2.2K OHM +-5% 1/6W
R589	61A 602-222-52T			2.2K OHM +-5% 1/6W
R590	61A 602-562-52T			5.6K OHM 5% 1/6W
R591	61A 602-682-52T			6.8K OHM 5% 1/6W
R592	61A 602-103-52T			10K OHM 5% 1/6W
R593		61A 602-333- 65		33K OHM 5% 1/6W
R601		61S 175-105- 64		1MEG OHM 5% 1/2W
R602		61D 20-200-		2.4 OHM 5% 10W
R603			61D 52- 14-	5 OHM 45 AMPS
R605		61S 20-274-		75 OHM +-5% 10W
R621		61S 175-105- 64		1MEG OHM 5% 1/2W
R622		61A 303-228- 64		0.22 OHM 5% 1W
R623		61D 20-257-		1.2 OHM 5% 5W
R624	61S 172-102-52T			1K OHM 5% 1/4W
R625	61S 172-331-52T			330 OHM 5% 1/4W
R626		61S152M-470- 64		47 OHM 5% 2W
R627	61S 172-121-52T			120 OHM +-5% 1/4W
R628		61S 208-259- 64		2.5 OHM 5% 1W
R629	61S 172-120-52T			12 OHM 5% 1/4W
R631	61S 202-120-52T			12 OHM +-5% 1/4W
R641	61S 172-163-52T			16K OHM +-5% 1/4W
R642		61S152M-103- 64		10K OHM 5% 2W
R644	61S 172-332-52T			3300 OHM 5% 1/4W
R645		61S 208-513- 64		51K OHM 5% 1W
R646	61S 172-103-52T			10K OHM 5% 1/4W
R647	61S 172-222-52T			2.2K OHM 5% 1/4W
R648	61S 172-101-52T			100 OHM 5% 1/4W
R649		61D 20-242-		18K OHM 5% 5W
R661	61S 175-474-52T			470K OHM 5% 1/2W
R662	61S 175-474-52T			470K OHM 5% 1/2W
R663		61A 303-228- 64		0.22 OHM 5% 1W
R664		61D 20-257-		1.2 OHM 5% 5W
R665	61S 172-102-52T			1K OHM 5% 1/4W
R666	61S 172-332-52T			3300 OHM 5% 1/4W
R667	61S 172-102-52T			1K OHM 5% 1/4W
R668	61S 172-151-52T			150 OHM 5% 1/4W
R669	61S 172-332-52T			3300 OHM 5% 1/4W
R670	61S 172-112-52T			1100 OHM 5% 1/4W
R671	61S 172-203-52T			20K OHM 5% 1/4W
R672		61S152M-101- 64		100 OHM 5% 2W
R673	61S 202-820-52T			82 OHM +-5% 1/4W
R674		61S 208-259- 64		2.5 OHM 5% 1W
R676	61S 172-120-52T			12 OHM 5% 1/4W
R677	61S 172-519-52T			5.1 OHM +-5% 1/4W
R678	61S 172-391-52T			390 OHM 5% 1/4W
R679	61S 172-471-52T			470 OHM 5% 1/4W
R682		61S 175-513- 64		51K OHM 5% 1/2W
R683	61S 172-103-52T			10K OHM 5% 1/4W
R685	61S 202-820-52T			82 OHM +-5% 1/4W

APPL.	CM314-AI	CMPC-15	CMPC-15F	SPECIFICATION
R686	61S 172-471-52T			470 OHM 5% 1/4W
R690		61S 208-829- 64		8.2 OHM 5% 1W
T501		79A 167-22B-		LK:380UH MAX.
T502		79A 328- 1-		MULT-SYNC HOT
T503		79A 196- 8-		L=-460MH +/–5%
T621			80A 516- 1-	L(3-1)=6.1MH +/–5%
T661			80A 515- 1-	L(6-5)=3.75MH +/–7%
VR2002		75A 335-222-		2.2K OHM +–20%
VR2003		75A 335-222-		2.2K OHM +–20%
VR401		75A 335-104-		100KB OHM
VR402		75A 335-221-		220 OHM +–20%
VR403		75A 335-221-		220 OHM +–20%
VR404		75A 335-471-		470 OHM +–20%
VR405		75A 335-333-		33KB OHM
VR406		75A 335-103-		10KB OHM
VR451		75A 335-332-		3K3 OHM
VR452		75A 335-334-		330K OHM +–20%
VR470		75A 323-201-		200 OHM +–20%
VR501		75A 335-333-		33KB OHM
VR502		75A 335-472-		4K7 OHM
VR551		75A 335-102-		1KB OHM
VR552		75A 335-332-		3K3 OHM
VR553		75A 335-473-		47K OHM +–20%
VR554		75A 335-473-		47K OHM +–20%
VR555		75A 335-474-		470K OHM +–20%
VR641		75A 314-102-		1K OHM +–20%
VR661		75A 323-501-		500 OHM +–20%
ZD2001	93C 39- 91-52T			7.78-8.19V DIODE
ZD2002	93C 39- 91-52T			7.78-8.19V DIODE
ZD401	93D 39- 68-52T			11.44-12.03V DIODE
ZD402	93C 39- 45-52T			24V +–5% ZENER DIODE
ZD460	93D 39- 52-52T			DIODE
ZD551	93C 39- 91-52T			7.78-8.19V DIODE
ZD643	93D 39- 73-52T			ZENER DIODE
ZD664	93D 39- 79-52T			DIODE
ZD670	93C 39- 55-52T			30V +–5% ZENER DIODE

MODEL	CTV-3BHB2 (TUV & FTZ)	CTZ-3BHB2 (TUV)	SPECIFICATION
APPL.	CMC-15V		CHAS
		CMC-15Z	CHAS
	1T 421- 4-128	1T 421- 4-128	3x10
	1T 421- 9-128	1T 421- 9-128	4x11 STEEL
	2C 9- 77-128		STEEL
	2T 208- 1- 47		TERNEPLATE
	2C 217- 1-128	2C 217- 1-128	STEEL
	3C 1-115- 47	3C 1-115- 47	6.2x20.8x2.3
	4C 1- 97-128		STEEL
	5B 38- 8-	5B 38- 8-	RUBBER WASHER
	9B 84- 20-	9B 84- 20-	STEEL
	9S 301- 5-	9S 301- 5-	BRASS
	11D 27- 3-	11D 27- 3-	NYLON
	12A 195- 17-	12A 195- 17-	CHLOROPRENE
	12T 325- 2-		RUBBER
	12T 349- 1-	12T 349- 1-	RUBBER
	15T5286- 1-	15T5286- 1-	TERNEPLATE
	15T5286- 2-	15T5286- 2-	TERNEPLATE
	15T5358- 1-		ALUMINUM
	15T5439- 1-	15T5439- 1-	TERNEPLATE
	19B 403- 5-	19B 403- 5-	STEEL
	19T 522- 1-	19T 522- 1-	WIRE STEEL
	23T3047- 32-	23T3047- 32-	ALUMINUM
	26A 500- 2-		SERIAL CARD (YELLOW)
	26 800- 2-	26 800- 2-	SERIAL CARD (YELLOW)
	33T3292- 1-	33T3292- 1-	A.B.S. PLASTIC
	33T3292- 2-	33T3292- 2-	A.B.S. PLASTIC
	33T3313- 7-	33T3313- 7-	A.B.S. PLASTIC
	33T3421- 1-	33T3421- 1-	ABS PLASTIC
	34E 436- 8- A	34E 436- 8- A	A.B.S. PLASTIC
		34E 437- 12- A	A.B.S. PLASTIC
	34E 437- 13- A		A.B.S. PLASTIC
		34E 438- 16- A	A.B.S. PLASTIC
	34E 438- 17- A		A.B.S. PLASTIC
		34E 465- 3- A	A.B.S. PLASTIC
	34E 465- 4- A		A.B.S. PLASTIC
	40A 153- 41-	40A 153- 41-	LABEL
	40 154- 8-	40 154- 8-	LABEL
	40A 155-275- 2	40A 155-275- 2	LABEL
	40A 575- 27-	40A 575- 27-	TUV LABEL
	40A 590- 16-	40A 590- 16-	LABEL
	40 590- 52-		LABEL
	41 51-001-	41 51-001-	TRAVELER CARD
	41A 68- 45-		FTZ STATEMENT
	41A 401-271-		OWNER'S MANUAL
	41A 401-271- 1		OWNER'S MANUAL
		41 401-385- 1	OWNER'S MANUAL
	44T3045- 14-		275# "AB" FLUTE
	44T3045- 14- A	44T3045- 14- A	275# "AB" FLUTE
	44T3079- 1-	44T3079- 1-	E.P.S
	44T3079- 2-	44T3079- 2-	E.P.S
	45C 76- 5-	45C 76- 5-	POLY BAG
	45C 77- 1-	45C 77- 1-	TRANSPARENT SHEET
	45C 88- 1-	45C 88- 1-	PE

APPL.	CTV-3BHB2	CTZ-3BHB2	SPECIFICATION
	50S 102- 5-	50S 102- 5-	PLASTIC
	51A 2- 11-	51A 2- 11-	HOT MELT GLUE
		52D 1-185- 1	TAPE
	52D 1-188-	52D 1-188-	PVC TAPE 8MIL BLK
	85T 387- 1-	85T 387- 1-	TERNEPLATE
		89A 173- 12-	SIGNAL CABLE
	89A 173- 21-	89A 173- 21-	CABLE ASS'Y
	89A 173- 22-		CABLE ASSEMBLY
	89A 490- 4-		POWER CORD
		89A 498- 1-	POWER CORD (VDE)
	95A 91-205- 1	95A 91-205- 1	UL1015 & COPPER WIRE
	95A 704- 2-	95A 704- 2-	WIRE & HOUSING ASSY
	96 29- 6-200	96 29- 6-200	H.S. TUBING UL/CSA
	G1S 140- 18-120	G1S 140- 18-120	4MMx18 STEEL
	K1S 340- 10-128		M4x10 STEEL
	K1S 350- 25-128		M5x25 STEEL
	K1S 401-805-120	K1S 401-805-120	#8x5/8
	K1S 401-806-128	K1S 401-806-128	#8x3/4
	K1S 404-603-120	K1S 404-603-120	#6x3/8
	750A1697- 61- 1	750A1697- 61- 1	DEGAUSSING COIL VDE
	750A5100- 4-	750A5100- 4-	14" N. G. 0.31MM CRT
1P		4C 1- 97-128	STEEL
1P		K1S 350- 25-128	M5x25 STEEL
2P		2C 9- 77-128	STEEL
4P		2T 208- 1- 47	TERNEPLATE
4P		12T 325- 2-	RUBBER

APPL.	CNPC-15V	CNPC-15Z	SPECIFICATION
	1T 421- 4-128	1T 421- 4-128	3x10
	32T3029- 2-	32T3029- 2-	PVC SHEET
		33T3403- 1-	A.B.S. PLASTIC
	33T3403- 4-		A.B.S. PLASTIC
	33T3404- 1-	33T3404- 1-	A.B.S. PLASTIC
	33T3439- 1-	33T3439- 1-	NYLON
	95 201- 59-042	95 201- 59-042	UL1007#22/WHT
	95A1019-610- 4	95A1019-610- 4	UL2464#24/4P HOUSING
	95A1019-610- 6	95A1019-610- 6	UL2464#24/6P HOUSING
	95S1019-611- 8	95S1019-611- 8	UL2468#24/8P HOUSING
	95A1019-612- 3	95A1019-612- 3	UL2464#24/3P HOUSING
	95A1019-613- 5	95A1019-613- 5	UL2464#24/5P HOUSING
	95A1019-615- 2	95A1019-615- 2	UL2464#24/2P HOUSING
	96B 25- 10-050	96B 25- 10-050	TUBING 0.53" L:50MM
	96S 29- 6-131		H.S. TUBING
	715A 296- 2-	715A 296- 2-	50.0x140.0x1.6MM
C101	67A 301-479- 7	67A 301-479- 7	4.7UF +100−10% 50V
C102	64A 177- 13- 58	64A 177- 13- 58	0.01UF J 50V
C103	65A 452-104- 4	65A 452-104- 4	.1UF +80−20% 16V Z5V
D1	81A 7- 2-	81A 7- 2-	LED
D1	81A 7- 2- 1	81A 7- 2- 1	GREEN LED
D101	93C 64-11H-	93C 64-11H-	DIODE
D102	93C 64-11H	93C 64-11H	DIOOD
D2	81A 7- 2-	81A 7- 2-	LED
D2	81A 7- 2- 1	81A 7- 2- 1	GREEN LED
D3	81A 7- 2-	81A 7- 2-	LED
D3	81A 7- 2- 1	81A 7- 2- 1	GREEN LED
IC101	56A74LS-86- H	56A74LS-86- H	14 PIN IC
J1	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J2	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J3	95S 90- 22-	95S 90- 22-	#22 TIN COATED
P102	33T3072- 8-	33T3072- 8-	4P PLUG PLASTIC
Q101	57B 419- Q-	57B 419- Q-	TRANSISTOR
R1001	61A 602-333- 65	61A 602-333- 65	33K OHM 5% 1/6W
R1003	61A 602-153- 65	61A 602-153- 65	15K OHM 5% 1/6W
R101	61A 602-222- 65	61A 602-222- 65	2.2K OHM 5% 1/6W
R102	61A 602-563- 65	61A 602-563- 65	56K OHM 5% 1/6W
R103	61A 602-562- 65	61A 602-562- 65	5.6K OHM 5% 1/6W
R104	61A 602-222- 65	61A 602-222- 65	2.2K OHM 5% 1/6W
SW2	77A 401- 11-	77A 401- 11-	⚠ SLIDE SW
SW3	77A 401- 11-	77A 401- 11-	SLIDE SW
VR1	**75A 346-103-**	**75A 346-103-**	**CONTROL 10KB +-20%**
VR2	**75A 346-204-**	**75A 346-204-**	**CONTROL 200KB +-20%**
VR3	75A 346-203-	75A 346-203-	CONTROL 20KB +−20%
VR4	75A 346-103-	75A 346-103-	CONTROL 10KB +−20%
VR5	75A 346-501- A	75A 346-501- A	500 OHM +−20%
VR6	75A 346-204-	75A 346-204-	CONTROL 200KB +−20%

APPL.	SGPC-15	SGPC-15V	SGPC-AI	SPECIFICATION
		SGPC-15		SIGNAL BOARD
	SGPC-AI			AUTO INSERTION
		3C 1- 40-106		LOCK WASHER
	9S 203- 8-			BRASS
	15T5400- 2-			BRACKET
			52D 1-191-	GLASS CLOTH
			52D 1-192-	GLASS CLOTH
	95A1019-617-	95A1019-617- 4		UL2464#24/4P HOUSING
		95S205T- 50-042		UL1015#22/BLK
	M1S 330- 6-120			3MMx6 STEEL
			715A 293- 3-	138.0x150.0x1.6MM
C682	67S 201-471- 1			470UF +100–10% 6.3V
C688	67S 201-221- 3			220UF +100–10% 15V
C701	65A 452-104- 4			.1UF +80–20% 16V Z5V
C702	67A 301-100- 7			10UF +100–10% 50V
C703	65S 450-103- 3			10000PF 50V Z5U
C704	67A 301-479- 7			4.7UF +100–10% 50V
C705	67A 301-470- 3			47UF +100–10% 15V
C706	67A 301-109- 7			1UF +100–10% 50V
C707	65S 444-471- 1			470PF K Z5P 50V
C708	67A 301-109- 7			1UF +100–10% 50V
C709	64A 177- 17- 58			0.022UF J 50V
C710	64A 177- 17- 58			0.022UF J 50V
C711	64A 177- 17- 58			0.022UF J 50V
C714	65A 452-104- 4			.1UF +80–20% 16V Z5V
C715	67A 301-100- 7			10UF +100–10% 50V
C716	65S 444-102- 1			1000PF K Z5P 50V
C717	65S 444-102- 1			1000PF K Z5P 50V
C718	65S 444-102- 1			1000PF K Z5P 50V
C801	67A 301-101- 3			100UF +100–10% 15V
C802	67A 301-101- 3			100UF +100–10% 15V
C804	67A 301-470- 3			47UF +100–10% 15V
C805	67A 301-470- 3			47UF +100–10% 15V
C806	67A 301-470- 3			47UF +100–10% 15V
C808	67A 301-229- 7			2.2UF +100–10% 50V
C809	65A 452-104- 4			.1UF +80–20% 16V Z5V
C810	67S 201-221- 3			220UF +100–10% 15V
C812	67A 301-100- 7			10UF +100–10% 50V
C813	67A 301-100- 7			10UF +100–10% 50V
C814	65A 452-104- 4			.1UF +80–20% 16V Z5V
C817	64A 177- 1- 58			0.001UF J 50V
C818	65A 452-104- 4			.1UF +80–20% 16V Z5V
C819	67A 301-109- 7			1UF +100–10% 50V
C820	67A 301-229- 7			2.2UF +100–10% 50V
C821	64A 177- 3- 58			0.0025UF J 50V
C822	64A 177- 1- 58			0.001UF J 50V
C823	65A 452-104- 4			.1UF +80–20% 16V Z5V
C824	65A 452-104- 4			.1UF +80–20% 16V Z5V
C827	67S 201-221- 3			220UF +100–10% 15V
C828	65A 452-104- 4			.1UF +80–20% 16V Z5V
C829	67S 201-221- 3			220UF +100–10% 15V
C830	65S 442-120- 1			12PF J NPO 50V
D701			93C 64-11H-52T	DIODE
D702			93C 64-11H-52T	DIODE

APPL.	SGPC-15	SGPC-15V	SGPC-AI	SPECIFICATION
D803			93C 64-11H-52T	DIODE
D804			93C 64-11H-52T	DIODE
D805			93C 64-11H-52T	DIODE
D806			93C 64-11H-52T	DIODE
D807			93C 64-11H-52T	DIODE
D808			93C 64-11H-52T	DIODE
D809			93C 64-11H-52T	DIODE
D810			93C 64-11H-52T	DIODE
D822			93C 64-11H-52T	DIODE
D823			93C 64-11H-52T	DIODE
D824			93C 64-11H-52T	DIODE
IC701	56A 330- 1-			18 PIN IC
IC801	56A 74S-473-			20 PIN IC
IC804	56A 308- 1- H			14 PIN IC
IC805	56A74LS-123- H			16 PIN IC
IC805	56A74LS-123- M			16 PIN IC
IC805	56A74LS-123- T			16 PIN IC
IC806	56A74LS-136- H			14 PIN IC
IC806	56A74LS-136- M			14 PIN IC
IC806	56A74LS-136- T			14 PIN IC
J701			95S 90- 23- A	TIN COATED
J702			95S 90- 23- A	TIN COATED
J703			95S 90- 23- A	TIN COATED
J704			95S 90- 23- A	TIN COATED
J705			95S 90- 23- A	TIN COATED
J707			95S 90- 23- A	TIN COATED
J709			95S 90- 23- A	TIN COATED
J710			95S 90- 23- A	TIN COATED
J711			95S 90- 23- A	TIN COATED
J712			95S 90- 23- A	TIN COATED
J713			95S 90- 23- A	TIN COATED
J714			95S 90- 23- A	TIN COATED
J715			95S 90- 23- A	TIN COATED
J716			95S 90- 23- A	TIN COATED
J717			95S 90- 23- A	TIN COATED
J718			95S 90- 23- A	TIN COATED
J719			95S 90- 23- A	TIN COATED
J720			95S 90- 23- A	TIN COATED
J722			95S 90- 23- A	TIN COATED
J723			95S 90- 23- A	TIN COATED
J725			95S 90- 23- A	TIN COATED
J726			95S 90- 23- A	TIN COATED
J727			95S 90- 23- A	TIN COATED
J728			95S 90- 23- A	TIN COATED
J729			95S 90- 23- A	TIN COATED
J730			95S 90- 23- A	TIN COATED
J731			95S 90- 23- A	TIN COATED
J732			95S 90- 23- A	TIN COATED
J733			95S 90- 23- A	TIN COATED
J734			95S 90- 23- A	TIN COATED
J735			95S 90- 23- A	TIN COATED
J736			95S 90- 23- A	TIN COATED
J737			95S 90- 23- A	TIN COATED

APPL.	SGPC-15	SGPC-15V	SGPC-AI	SPECIFICATION
J738			95S 90- 23- A	TIN COATED
J739			95S 90- 23- A	TIN COATED
J740			95S 90- 23- A	TIN COATED
J741			95S 90- 23- A	TIN COATED
J742			95S 90- 23- A	TIN COATED
J743			95S 90- 23- A	TIN COATED
J744			95S 90- 23- A	TIN COATED
J745			95S 90- 23- A	TIN COATED
J746			95S 90- 23- A	TIN COATED
J747			95S 90- 23- A	TIN COATED
J748			95S 90- 23- A	TIN COATED
J749			95S 90- 23- A	TIN COATED
J750			95S 90- 23- A	TIN COATED
J751			95S 90- 23- A	TIN COATED
J752			95S 90- 23- A	TIN COATED
J753			95S 90- 23- A	TIN COATED
J757			95S 90- 23- A	TIN COATED
J758			95S 90- 23- A	TIN COATED
J759			95S 90- 23- A	TIN COATED
J760			95S 90- 23- A	TIN COATED
J765			95S 90- 23- A	TIN COATED
J767			95S 90- 23- A	TIN COATED
J770			95S 90- 23- A	TIN COATED
L681	73C 259- 2-			30UH +/–15%
L684	73C 259- 2-			30UH +/–15%
L804	73C 145-569-			5.6UH +–10%
L805	73C 145-569-			5.6UH +–10%
LC801	53A 40- 1-			.022UF +50–20 50V 7A
P701	33T3072- 8-			4P PLUG PLASTIC
P702	33T3072- 2-			6P PLUG PLASTIC
P801	33T3072- 14-			5P PLUG PLASTIC
P802	33A3072- 20-			10P PLUG PLASTIC
P803	33T3072- 16-			2P PLUG
P804	33T3072- 10-			8P PLUG PLASTIC
P805	33T3072- 8-			4P PLUG PLASTIC
Q701	57B 419- Q-			TRANSISTOR
Q702	57A 420- Q-			TRANSISTOR
Q703	57A 420- Q-			TRANSISTOR
Q704	57A 420- Q-			TRANSISTOR
Q706	57A 420- Q-			TRANSISTOR
Q707	57A 420- Q-			TRANSISTOR
Q708	57A 420- Q-			TRANSISTOR
Q709	57B 419- Q-			TRANSISTOR
Q710	57B 419- Q-			TRANSISTOR
Q711	57B 419- Q-			TRANSISTOR
Q801	57A 431- 3-			TRANSISTOR
Q802	57B 419- P-			TRANSISTOR
Q803	57B 420- P-			TRANSISTOR
Q804	57B 419- Q-			TRANSISTOR
Q805	57B 419- Q-			TRANSISTOR
Q806	57B 419- Q-			TRANSISTOR
Q807	57B 419- Q-			TRANSISTOR
Q808	57B 419- Q-			TRANSISTOR
Q809	57B 419- Q-			TRANSISTOR
Q810	57B 419- Q-			TRANSISTOR

APPL.	SGPC-15	SGPC-15V	SGPC-AI	SPECIFICATION
Q811	57B 419- Q-			TRANSISTOR
Q812	57B 419- Q-			TRANSISTOR
Q814	57B 419- Q-			TRANSISTOR
Q815	57B 419- Q-			TRANSISTOR
Q816	57B 419- Q			TRANSISTOR
Q817	57B 419- P-			TRANSISTOR
Q818	57B 419- P-			TRANSISTOR
Q819	57B 419- P-			TRANSISTOR
Q820	57B 419- P-			TRANSISTOR
Q821	57B 419- P-			TRANSISTOR
Q822	57B 419- P-			TRANSISTOR
Q823	57B 419- P-			TRANSISTOR
Q824	57B 419- P-			TRANSISTOR
Q825	57B 419- P-			TRANSISTOR
Q828	57B 419- P-			TRANSISTOR
Q829	57B 419- P-			TRANSISTOR
R681			61S 172-102-52T	1K OHM 5% 1/4W
R684			61S 172-102-52T	1K OHM 5% 1/4W
R701			61A 602-103-52T	10K OHM 5% 1/6W
R702			61S 602-563-52T	56K OHM +−5% 1/6W
R703			61A 602-223-52T	22K OHM 5% 1/6W
R704			61A 602-272-52T	2.7K OHM 5% 1/6W
R705			61S 602-122-52T	1.2K OHM +5% 1/6W
R706			61S 602-102-52T	1K OHM 5% 1/6W
R707			61A 602-222-52T	2.2K OHM +−5% 1/6W
R708			61A 602-103-52T	10K OHM 5% 1/6W
R709			61S 602-221-52T	220 OHM +−5% 1/6W
R710			61A 602-103-52T	10K OHM 5% 1/6W
R711			61S 602-221-52T	220 OHM +−5% 1/6W
R712			61A 602-332-52T	3.3K OHM 5% 1/6W
R713			61S 602-101-52T	100 OHM 5% 1/6W
R716			61S 602-221-52T	220 OHM +−5% 1/6W
R718			61A 602-332-52T	3.3K OHM 5% 1/6W
R719			61S 602-101-52T	100 OHM 5% 1/6W
R720			61S 602-101-52T	100 OHM 5% 1/6W
R721			61S 602-101-52T	100 OHM 5% 1/6W
R722			61S 172-471-52T	470 OHM 5% 1/4W
R723			61S 172-471-52T	470 OHM 5% 1/4W
R724			61S 172-471-52T	470 OHM 5% 1/4W
R725			93C 64-11H-52T	DIODE
R726			93C 64-11H-52T	DIODE
R727			93C 64-11H-52T	DIODE
R728			61S 602-122-52T	1.2K OHM +5% 1/6W
R732			61S 602-120-52T	12 OHM +−5% 1/6W
R733			61S 602-120-52T	12 OHM +−5% 1/6W
R734			61S 602-120-52T	12 OHM +−5% 1/6W
R735			61S 602-120-52T	12 OHM +−5% 1/6W
R736			61S 602-120-52T	12 OHM +−5% 1/6W
R737			61S 602-120-52T	12 OHM +−5% 1/6W
R801			61S 602-122-52T	1.2K OHM +5% 1/6W
R802			61S 602-122-52T	1.2K OHM +5% 1/6W
R803			61S 175-751-52T	750 OHM +−5% 1/2W
R804			61A 602-222-52T	2.2K OHM +−5% 1/6W
R805			61A 602-222-52T	2.2K OHM +−5% 1/6W
R806			61S 602-102-52T	1K OHM 5% 1/6W

APPL.	SGPC-15	SGPC-15V	SGPC-AI	SPECIFICATION
R807			61A 602-392-52T	3.9K OHM 5% 1/6W
R809			61S 602-102-52T	1K OHM 5% 1/6W
R810			61S 172-151-52T	150 OHM 5% 1/4W
R811			61A 602-751-52T	750 OHM +–5% 1/6W
R812			61A 602-681-52T	680 OHM +–5% 1/6W
R813			61S 602-152-52T	1.5K OHM +–5% 1/6W
R814			61A 602-681-52T	680 OHM +–5% 1/6W
R815			61S 602-152-52T	1.5K OHM +–5% 1/6W
R816			61A 602-822-52T	8.2K OHM +–5% 1/6W
R817			61A 602-332-52T	3.3K OHM 5% 1/6W
R818			61S 602-111-52T	110 OHM +–5% 1/6W
R819			61S 172-820-52T	82 OHM +–5% 1/4W
R821			61S 602-102-52T	1K OHM 5% 1/6W
R822			61S 172-151-52T	150 OHM 5% 1/4W
R823			61A 602-751-52T	750 OHM +–5% 1/6W
R824			61A 602-681-52T	680 OHM +–5% 1/6W
R825			61S 602-152-52T	1.5K OHM +–5% 1/6W
R826			61A 602-681-52T	680 OHM +–5% 1/6W
R827			61S 602-152-52T	1.5K OHM +–5% 1/6W
R828			61A 602-822-52T	8.2K OHM +–5% 1/6W
R829			61A 602-332-52T	3.3K OHM 5% 1/6W
R830			61S 602-111-52T	110 OHM +–5% 1/6W
R831			61S 172-820-52T	82 OHM +–5% 1/4W
R832			61A 602-222-52T	2.2K OHM +–5% 1/6W
R833			61S 602-102-52T	1K OHM 5% 1/6W
R834			61S 172-151-52T	150 OHM 5% 1/4W
R835			61A 602-751-52T	750 OHM +–5% 1/6W
R836			61A 602-681-52T	680 OHM +–5% 1/6W
R837			61S 602-152-52T	1.5K OHM +–5% 1/6W
R838			61A 602-681-52T	680 OHM +–5% 1/6W
R839			61S 602-152-52T	1.5K OHM +–5% 1/6W
R840			61A 602-822-52T	8.2K OHM +–5% 1/6W
R841			61A 602-332-52T	3.3K OHM 5% 1/6W
R842			61S 602-111-52T	110 OHM +–5% 1/6W
R843			61S 172-820-52T	82 OHM +–5% 1/4W
R845			61A 602-561-52T	560 OHM +–5% 1/6W
R850			61A 602-562-52T	5.6K OHM 5% 1/6W
R851			61A 602-562-52T	5.6K OHM 5% 1/6W
R852			61S 602-471-52T	470 OHM +–5% 1/6W
R853			61A 602-272-52T	2.7K OHM 5% 1/6W
R854			61A 602-103-52T	10K OHM 5% 1/6W
R855			61A 602-823-52T	82K OHM +–5% 1/6W
R856			61A 602-103-52T	10K OHM 5% 1/6W
R857			61S 602-122-52T	1.2K OHM +5% 1/6W
R858			61S 602-221-52T	220 OHM +–5% 1/6W
R859			61A 602-222-52T	2.2K OHM +–5% 1/6W
R860			61S 602-563-52T	56K OHM +–5% 1/6W
R861			61A 602-332-52T	3.3K OHM 5% 1/6W
R862			61A 602-332-52T	3.3K OHM 5% 1/6W
R863			61A 602-222-52T	2.2K OHM +–5% 1/6W
R864			61A 602-331-52T	330 OHM 5% 1/6W
R865			61A 602-822-52T	8.2K OHM +–5% 1/6W
R866			61A 602-222-52T	2.2K OHM +–5% 1/6W
R867			61A 602-272-52T	2.7K OHM 5% 1/6W
R868			61A 602-123-52T	12K OHM 5% 1/6W

APPL.	SGPC-15	SGPC-15V	SGPC-AI	SPECIFICATION
R869			61A 602-562-52T	5.6K OHM 5% 1/6W
R870			61A 602-562-52T	5.6K OHM 5% 1/6W
R871			61A 602-222-52T	2.2K OHM +-5% 1/6W
R872			61A 602-822-52T	8.2K OHM +-5% 1/6W
R873			61A 602-822-52T	8.2K OHM +-5% 1/6W
R874			61A 602-332-52T	3.3K OHM 5% 1/6W
R875			61A 602-103-52T	10K OHM 5% 1/6W
R876			61A 602-562-52T	5.6K OHM 5% 1/6W
R878			61A 602-222-52T	2.2K OHM +-5% 1/6W
R879			61A 602-222-52T	2.2K OHM +-5% 1/6W
R881			61A 602-222-52T	2.2K OHM +-5% 1/6W
R882			61A 602-331-52T	330K OHM +-5% 1/6W
R884			61A 602-562-52T	5.6K OHM 5% 1/6W
R886			61A 602-109-52T	1OHM +-5% 1/6W
R887			61A 602-392-52T	3.9K OHM 5% 1/6W
R888			61A 602-122-52T	1.2K OHM +5% 1/6W
R890			61A 602-511-52T	510 OHM +-5% 1/6W
R895			61A 602-822-52T	8.2K OHM +-5% 1/6W
R896			61A 602-394-52T	390K OHM +-5% 1/6W
R897			61A 602-223-52T	22K OHM 5% 1/6W
R898			61A 602-223-52T	22K OHM 5% 1/6W
R899			61A 602-332-52T	3.3K OHM 5% 1/6W
R8A1			61S 602-563-52T	56K OHM +-5% 1/6W
R8A2			61S 602-563-52T	56K OHM +-5% 1/6W
R8A4			61S 602-563-52T	56K OHM +-5% 1/6W
R8A5			61S 602-563-52T	56K OHM +-5% 1/6W
R8A6			61S 602-563-52T	56K OHM +-5% 1/6W
R8A7			61S 602-563-52T	56K OHM +-5% 1/6W
R8A8			61S 602-563-52T	56K OHM +-5% 1/6W
R8B1			61S 602-471-52T	470 OHM +-5% 1/6W
R8B2			61S 602-471-52T	470 OHM +-5% 1/6W
R8B4			61S 602-471-52T	470 OHM +-5% 1/6W
R8B5			61S 602-471-52T	470 OHM +-5% 1/6W
R8B6			61S 602-471-52T	470 OHM +-5% 1/6W
R8B7			61S 602-471-52T	470 OHM +-5% 1/6W
R8B8			61S 602-471-52T	470 OHM +-5% 1/6W
SW801	77A 413- 1-			SIGNAL SW
VR701	75A 323-501-			500 OHM +-20%
VR702	75A 323-501-			500 OHM +-20%
VR703	75A 323-501-			500 OHM +-20%
ZD801			93D 39- 80-52T	9.1V +-5% 1/2W
ZD802			93D 39- 52-52T	DIODE

APPL.	CMC-15V	CMC-15Z	SPECIFICATION
	CMPC-15V		PC BOARD
		CMPC-15Z	PC BOARD
	CNPC-15V		CONTROL BOARD
		CNPC-15Z	PC BOARD
	CRPC-15		CRT SOCKET BRD
		CRPC-15Z	CRT SOCKET BOARD
	SGPC-15V	SGPC-15V	PC BOARD
	3C 1- 3-106	3C 1- 3-106	#6 E.T.
	5B 38- 16-	5B 38- 16-	RUBBER PAD
	15T5292- 2-	15T5292- 2-	TERNEPLATE
	15T5399- 1-	15T5399- 1-	TERNEPLATE
	19T 527- 1-	19T 527- 1-	STEEL WIRE
	33T3262- 9-	33T3262- 9-	A.B.S. PLASTIC
	40A 581- 26-011	40A 581- 26-011	LABEL/BLANK
	50S 102- 5-	50S 102- 5-	PLASTIC
	77A 306- 4-	77A 306- 4-	POWER SW (DPST)
	87A 501- 1-	87A 501- 1-	6A 250V AC
	87A 501- 3-	87A 501- 3-	AC SOCKET
	89A8310- 1-	89A8310- 1-	UL2464#18x4C
	95S207T-354-033	95S207T-354-033	UL1015#18/GRN, YEL
	95A3253- 3- 1-	95A3253- 3- 1	UL1015#20/3P HOUSING
	96 29- 6-200	96 29- 6-200	H.S. TUBING UL/CSA
	K1S 404-603-120	K1S 404-603-120	#6x3/8
	M1S 330- 7-128	M1S 330- 7-128	M3x7 STEEL
	M1S 440- 6-127	M1S 440- 6-127	M4x6
	700 99- 42-	700 99- 42-	AS REQUEST
SW805	77A 403- 3-	77A 403- 3-	SWITCH

APPL.	700 99- 42-	SPECIFICATION
	55C 1- 51-	SOLDER BAR
	55B 1- 56-	63/37 0.05" (1.27MM)
	55C 23- 13-	KESTER FLUX #933
	55C 23- 14-	THINNER #108

APPL.	CRPC-15	CRPC-15Z	SPECIFICATION
	1T 420- 3-128	1T 420- 3-128	3MMx8 STEEL
	87A 400- 1-	87A 400- 1-	CRT SOCKET
	95A1019-608- 3	95A1019-608 3	UL2468#24/WHTx3C
	95A1019-608- 6	95A1019-608- 6	UL2464#24/6P HOUSING
	715A 295- 3-	715A 295- 3-	122.0x110.0x1.6MM
C690	67S 201-471- 2	67S 201-471- 2	470UF +100–10% 10V
C901	67S 201-100- 10	67S 201-100- 10	10UF +100–10% 160V
C902	67A 201-109- 13	67A 201-109- 13	1UF +100–10% 350V
C903	67A 301-101- 3	67A 301-101- 3	100UF +100–10% 15V
C904	67A 301-229- 11	67A 301-229- 11	2.2UF +100–10% 200V
C905	67S 201-100- 11	67S 201-100- 11	10UF 200V
C906	65A517K-102-2A	65A517K-102-2A	0.001UF 500V Z5U
C907	65S 450-103- 3	65S 450-103- 3	10000PF 50V Z5U
C909	65A 2M-103- 3B	65A 2M-103- 3B	0.01UF 2KV 20% Z5U
C910	65A517K-103-1B	65A517K-103-1B	10000PF K Z5F 500V
C911	65A517K-103-1B	65A517K-103-1B	10000PF K Z5F 500V
C912	65A517K-103-1B	65A517K-103-1B	10000PF K Z5F 500V
C913	65A517K-103-1B	65A517K-103-1B	10000PF K Z5F 500V
C914	67A 301-470- 3	67A 301-470- 3	47UF +100–10% 15V
C915	67A 301-470- 3	67A 301-470- 3	47UF +100–10% 15V
C916	67A 301-470- 3	67A 301-470- 3	47UF +100–10% 15V
C917	67A 301-229- 11	67A 301-229- 11	2.2UF +100–10% 200V
C918	67A 301-229- 11	67A 301-229- 11	2.2UF +100–10% 200V
C919	67A 301-229- 11	67A 301-229- 11	2.2UF +100–10% 200V
C920	67A 301-229- 11	67A 301-229- 11	2.2UF +100–10% 200V
C921	67A 301-229- 11	67A 301-229- 11	2.2UF +100–10% 200V
C922	67A 301-229- 11	67A 301-229- 11	2.2UF +100–10% 200V
D902	93C 60- 38-	93C 60- 38-	1A 200V
D903	93C 60- 38-	93C 60- 38-	1A 200V
D904	93C 60- 38-	93C 60- 38-	1A 200V
J901	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J902	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J903	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J904	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J905	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J906	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J907	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J908	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J909	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J910	95S 90- 22-	95S 90- 22-	#22 TIN COATED
J911	95S 90- 22-	95S 90- 22-	#22 TIN COATED
L685	73C 259- 2-	73C 259- 2-	30UH +/–15%
L901	73C 145-479-	73C 145-479-	4.7UF +–10%
L902	73C 145-479-	73C 145-479-	4.7UH +–10%
L903	73C 145-479-	73C 145-479-	4.7UH +–10%
P902		33T3072- 12-	3P PLUG PLASTIC
Q901	57A 545- 1-	57A 545- 1-	TRANSISTOR
Q901	90T 185- 1-	90T 185- 1-	ALUMINUM
Q902	57A 545- 1-	57A 545- 1-	TRANSISTOR
Q902	90T 185- 1-	90T 185- 1-	ALUMINUM
Q903	57A 545- 1-	57A 545- 1-	TRANSISTOR
Q903	90T 185- 1-	90T 185- 1-	ALUMINUM
R902	33T3072- 12-		3P PLUG PLASTIC
R902	61S 175-332- 64	61S 175-332- 64	3K3 OHM 5% 1/2W

APPL.	CRPC-15	CRPC-15Z	SPECIFICATION
R903	61S 172-564- 57	61S 172-564- 57	560K OHM 5% 1/4W
R904	61S 175-333- 64	61S 175-333- 64	33K OHM 5% 1/2W
R905	61S 172-102- 57	61S 172-102- 57	1K OHM 5% 1/4W
R906	61S 172-102- 57	61S 172-102- 57	1K OHM 5% 1/4W
R907	61S 172-102- 57	61S 172-102- 57	1K OHM 5% 1/4W
R908	61S 172-102- 57	61S 172-102- 57	1K OHM 5% 1/4W
R909	61S 172-102- 57	61S 172-102- 57	1K OHM 5% 1/4W
R910	61S 172-102- 57	61S 172-102- 57	1K OHM 5% 1/4W
R911	61S155M-821- 61	61S155M-821- 61	820 OHM 5% 5W
R912	61S155M-821- 61	61S155M-821- 61	820 OHM 5% 5W
R913	61S155M-821- 61	61S155M-821- 61	820 OHM 5% 5W
R914	61S 172-563- 57	61S 172-563- 57	56K OHM 5% 1/4W
R915	61S 172-563- 57	61S 172-563- 57	56K OHM 5% 1/4W
R916	61S 172-563- 57	61S 172-563- 57	56K OHM 5% 1/4W
R920	61S 172-122- 57	61S 172-122- 57	1.2K OHM 5% 1/4W
R921	61S 172-122- 57	61S 172-122- 57	1.2K OHM 5% 1/4W
R922	61S 172-122- 57	61S 172-122- 57	1.2K OHM 5% 1/4W
R923	61S 172-104- 57	61S 172-104- 57	100K OHM 5% 1/4W
R924	61S 172-104- 57	61S 172-104- 57	100K OHM 5% 1/4W
R925	61S 172-104- 57	61S 172-104- 57	100K OHM 5% 1/4W
R926	61S 175-331- 64	61S 175-331- 64	330 OHM 5% 1/2W
R927	61S 175-331- 64	61S 175-331- 64	330 OHM 5% 1/2W
R928	61S 175-331- 64	61S 175-331- 64	330 OHM 5% 1/2W
VR903	75A 325-503-	75A 325-503-	50K OHM +–20%
VR904	75A 325-503-		50K OHM +–20%
VR905	75A 325-503-		50K OHM +–20%

APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
		CM314-AI			AUTO INSERTION
			CMPC-15	CMPC-15	14" MAIN BOARD
		1T 420- 3-120			3MMx8 STEEL
		2T 202- 2-			STAINLESS STEEL
		5B 38- 8-			RUBBER WASHER
		5B 39- 8-			WASHER
		9A 92- 13-			BRASS
			9S 203- 8-	9S 203- 8-	BRASS
		9S 206- 5-			CONNECTOR
		11T 84- 1-			NYLON
		15T5316- 1-			TERNEPLATE
		32 3028- 3-			MICA
			40 154- 8-	40 154- 8-	LABEL
	52D 1-191-				GLASS CLOTH
	52D 1-192-				GLASS CLOTH
		90T 186- 2-			ALUMINUM
		90 189- 6-			HEAT SINK
			90T 190- 1-	90T 190- 1-	ALUMINUM
		90T 208- 2-			HEAT SINK
				90S 90- 22-	#22 TIN COATED
		95S 203- 30-102			UL1015#18/BLK
		95S 203- 32-102			UL1015#18/RED
		95S 203- 33-102			UL1015#18/ORG
		95S 203- 36-102			UL1015#18/BLUE
		95S 203- 59-152			UL1007#22/WHT STRAND
		95A1019-607- 4			UL2464#24/4P HOUSING
		95A1019-610- 4			UL2464#24/4P HOUSING
		95S3261- 2-			UL1015#22/WHT
		K1S 330- 10-128			M3x10
		K1S 330- 14-128			M3x14
		K1S 404-603-120	K1S 404-603-120	K1S 404-603-120	#6x3/8
		M2S 430-2.4-128			M3
	715A 418- 1-				246.0x278.0x1.6MM
AS002			51A 2- 11-	51A 2- 11-	HOT MELT GLUE
AS002			51A 2- 12-	51A 2- 12-	HOT MELT GLUE
C2001		67A 301-470- 7			47UF +100–10% 50V
C2002		67A 301-470- 3			47UF +100–10% 15V
C2004		67A 301-100- 7			10UF +100–10% 50V
C2006		67A 301-470- 3			47UF +100–10% 15V
C401		67A 301-101- 3			100UF +100–10% 15V
C402		64A 177- 2- 58			0.0012UF J 50V
C403		64A 177- 25- 57			0.1UF J 50V
C404		64A 177- 10- 58			0.0056UF J 50V
C405		64A 177- 17- 58			0.022UF J 50V
C406		64A 177- 21- 58			0.047UF J 50V
C407		67S 202-688- 7			0.68U 35V +–10%
C408		67S 201-222- 4			2200UF +100–10% 25V
C409		67S 201-221- 6			220UF +100–10% 35V
C410		67S 201-101- 6			100UF +100–10% 35V
C411		65S 444-561- 1			560PF K Z5P 50V
C412		65S 444-101- 1			100PF K Z5P 50V
C413		67S 202-478- 7			0.47U 35V +–10%
C414		67A 301-101- 4			100UF +100–10% 25V
C415		67A 402-109- 7			1UF 50V +–20%
C416		67A 60-220- 3			22UF 16V NP

APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
C417		65S 450-472- 3			.0047UF Z5U 50V
C419		65S 444-102- 1			1000PF K Z5P 50V
C420		65S 444-561- 1			560PF K Z5P 50V
C421		65S 450-103- 3			10000PF 50V Z5U
C422		67S 201-101- 6			100UF +100–10% 35V
C460		67S 202-109- 7			1UF +–10% 35V
C461		67A 301-470- 3			47UF +100–10% 15V
C462		67A 301-100- 7			10UF +100–10% 50V
C463		67A 301-100- 7			10UF +100–10% 50V
C464		67A 301-100- 7			10UF +100–10% 50V
C465		67A 301-100- 7			10UF +100–10% 50V
C466		67S 202-109- 7			1UF +–10% 35V
C467		65A 452-104- 4			.1UF +80–20% 16V Z5V
C470		67A 301-470- 3			47UF +100–10% 15V
C501		65S 442-101- 1			100PF J NPO 50V
C502		64A 103- 54-			.0022UF +/–5% 50V
C503		65S 442-271- 1			270PF 5% 50V NPO
C504		64A 177- 11- 58			0.0068UF J 50V
C505		67S 202-109- 7			1UF +–10% 35V
C506		64A 177- 13- 58			0.01UF J 50V
C507		67S 202-109- 7			1UF +–10% 35V
C508		64A 103- 55-			.0033UF +/–5% 50V
C509		67S 201-221- 3			220UF +100–10% 15V
C510		64A 177- 13- 58			0.01UF J 50V
C511		67A 402-109- 7			1UF 50V +–20%
C512		65S 444-102- 1			1000PF K Z5P 50V
C513		63A 210- 29-			3600PF J 2KV
C514		63A 210- 30-			4300PF J 2KV
C515		64A 140- 53- 64			.027UF +/–5% 400V
C516		67S 201-100- 10			10UF +100–10% 160V
C517		64A 140- 52- 64			0.022UF J 400V
C518		67S 201-100- 11			10UF 200V
C519		67S 201-220- 9			22UF +100–10% 100V
C520		65A517K-561-2A			560PF K Z5P 500V
C521		65A517K-331-2A			330PF K Z5P 500V
C522		63A 210- 34-			640000PF 200V
C523		63A 210- 33-			68000PF 1KV
C524		65A517K-221-2A			220PF K Z5P 500V
C526		64A 177- 25- 57			0.1UF J 50V
C527		65S 444-102- 1			1000PF K Z5P 50V
C551		64A 177- 3- 58			0.0015UF J 50V
C552		67S 202-229- 7			2.2UF +–10% 35V
C553		67A 301-470- 4			47UF +100–10% 25V
C557		63A 210- 34-			640000PF 200V
C558		63A 210- 34-			640000PF 200V
C559		65S 450-103- 3			10000PF 50V Z5U
C560		65S 450-103- 3			10000PF 50V Z5U
C561		65S 450-103- 3			10000PF 50V Z5U
C562		65S 442-101- 1			100PF J NPO 50V
C563		64A 103- 54-			.0022UF +/–5% 50V
C565		64A 103- 16-			.01UF K 50V
C566		64A 103- 56-			.0039UF +/–5% 50V
C567		65S 444-102- 1			1000PF K Z5P 50V
C568		65S 444-681- 1			680PF K Z5P 50V

APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
C601			63A 107- 7-		1 UF +-20% 250V AC
C603			65A305M-472-2B	65A305M-472-2B	4700P +-20% 400VAC
C604			65A305M-472-2B	65A305M-472-2B	4700P +-20% 400VAC
C606		65A517K-472-1B			4700PF K Z5F 500V
C607		65A517K-472-1B			4700PF K Z5F 500V
C608		65A517K-472-1B			4700PF K Z5F 500V
C609		65A517K-472-1B			4700PF K Z5F 500V
C610			67D 30- 49-	67D 30- 49-	470UF 250V 105C
C611			67D 30- 49-	67D 30- 49-	470UF 250V 105C
C612			65A305M-332-2B	65A305M-352-2B	3300PF +-20% 400V AC
C613			65A305M-332-2B	65A305M-332-2B	3300PF +-20% 400V AC
C621		65A 2K-561-2BN			560PF K 2KV BN
C622		67A 301-220- 4			22UF +100-10% 25V
C623		67A 301-220- 4			22UF +100-10% 25V
C624		64A 177- 58- 57			0.1UF 100V 5%
C641		67D 30- 38-			470UF 200V
C642		67A 301-478- 10			.47UF +100-10% 160V
C463		64A 177- 13- 58			0.01UF J 50V
C661		64A 177- 27- 57			0.15UF J 50V
C662		67A 301-100- 7			10UF +100-10% 50V
C663		65A 2K-561-2BN			560PF K 2KV BN
C664		65S 450-473- 4			.047UF Z5V 50V
C665		67S 201-471- 2			470UF +100-10% 10V
C666		67A 301-101- 2			100UF +100-10% 10V
C681		67S 201-102- 1			1000UF +100-10% 6.3V
C683		67S 201-101- 9			100UF +100-10% 100V
C684		67S 201-470- 9			47UF +100-10% 100V
C685		67S 201-102- 6			1000UF +100-10% 35V
C686		67S 201-331- 6			330UF +100-10% 35V
C687		67S 201-102- 3M			1000UF +100-10% 15V
C689		67 201-102- 2			1000UF +100-10% 10V
C691		64A 177- 1- 58			0.001UF J 50V
D2001	93C 60- 38-52T				1A 200V
D2002	93C 64-11H-52T				DIODE
D2004	93C 60- 38-52T				1A 200V
D2005	93C 64-11H-52T				DIODE
D401	93C 64-11H-52T				DIODE
D402	93C 64-11H-52T				DIODE
D403	93C 64-11H-52T				DIODE
D404	93C 60- 38-52T				1A 200V
D405	93C 64-11H-52T				DIODE
D460	93C 64-11H-52T				DIODE
D461	93C 64-11H-52T				DIODE
D462	93C 64-11H-52T				DIODE
D470	93C 60- 38-52T				1A 200V
D501	93C 60- 81-52T				F.R.D. 1450V/5A
D502	93D 60- 62-52T				1A/1500A 250 N.S.
D503	93C 60- 38-52T				1A 200V
D504	93C 60- 38-52T				1A 200V
D505	93C 60- 38-52T				1A 200V
D506	93C 64-11H-52T				DIODE
D551	93C 64-11H-52T				DIODE
D552	93C 64-11H-52T				DIODE
D553	93C 64-11H-52T				DIODE
D554	93C 60- 38-52T				1A 200V
D555	93C 60- 38-52T				1A 200V
D507	90C 60- 81-				F.R.D. 1450V/5A

APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
D556	93C 64-11H-52T				DIODE
D601	93C 52- 9-52T				2A 600V
D602	93C 52- 9-52T				2A 600V
D603	93C 52- 9-52T				2A 600V
D604	93C 52- 9-52T				2A 600V
D605	93C 52- 14-52T				50A/1A RECTIFIER
D606	93C 52- 14-52T				50A/1A RECTIFIER
D607	93C 52- 14-52T				50A/1A RECTIFIER
D608	93C 52- 14-52T				50A/1A RECTIFIER
D621	93C 64-11H-52T				DIODE
D622	93C 60- 77-52T				F.R.D. 100V/1A
D641	93C 60- 71-52T				F.R.D. 400V/1.5A
D642	93C 64-11H-52T				DIODE
D644	93C 64-11H-52T				DIODE
D661	93C 60- 47-52T				F.R.D. 600V/0.5A
D662	93C 60- 77-52T				F.R.D. 100V/1A
D665	93C 60- 77-52T				F.R.D. 100V/1A
D666	93C 64-11H-52T				DIODE
D668	93C 60- 77-52T				F.R.D. 100V/1A
D682	93D 60- 21-52T				FRD 1.5A 500V
D683		93D 60- 70-			3A 600V FRD
D683	93C 60- 70-52T				F.R.D. 600V/3A
D684	93D 60- 72-52T				F.R.D. 1A 200V
D685		93D 60- 93-			3A 40V SR340
D686	93C 64-11H-52T				DIODE
F601			84A 38- 8-	84A 38- 8-	FUSE 2.5A/250V
FH001		84B 33- 4-			FUSE CLIP
FH001		84C 33- 7-			FUSE CLIP
IC401		56A 326- 1-			20 PIN I.C
IC402		56A 327- 1-			7 PIN I.C
IC451		56A74LS-221- H			16 PIN IC
IC551		56A 329- 1-			8 PIN I.C
IC552		56A 328- 1-			IC
IC553		56A 210- 2-			IC
IC554		56A 328- 1-			IC
IC555		56A 265- 2-			IC
IC621		56A 161- 1-			4 PIN IC PC817
IC622		56A 161- 1-			4 PIN IC PC817
IC641		56A 158- 1-			3 PIN IC
IC661		56A 161- 1-			4 PIN IC PC817
J702	95S 90- 23- A				TIN COATED
J703	95S 90- 23- A				TIN COATED
J704	95S 90- 23- A				TIN COATED
J705	95S 90- 23- A				TIN COATED
J706	95S 90- 23- A				TIN COATED
J707	95S 90- 23- A				TIN COATED
J708	95S 90- 23- A				TIN COATED
J709	95S 90- 23- A				TIN COATED
J710	95S 90- 23- A				TIN COATED
J711	95S 90- 23- A				TIN COATED
J712	95S 90- 23- A				TIN COATED
J713	95S 90- 23- A				TIN COATED
J714	95S 90- 23- A				TIN COATED
J715	95S 90- 23- A				TIN COATED

APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
J716	95S 90- 23- A				TIN COATED
J717	95S 90- 23- A				TIN COATED
J718	95S 90- 23- A				TIN COATED
J719	95S 90- 23- A				TIN COATED
J720	95S 90- 23- A				TIN COATED
J721	95S 90- 23- A				TIN COATED
J722	95S 90- 23- A				TIN COATED
J723	95S 90- 23- A				TIN COATED
J724	95S 90- 23- A				TIN COATED
J725	95S 90- 23- A				TIN COATED
J726	95S 90- 23- A				TIN COATED
J727	95S 90- 23- A				TIN COATED
J728	95S 90- 23- A				TIN COATED
J729	95S 90- 23- A				TIN COATED
J730	95S 90- 23- A				TIN COATED
J731	95S 90- 23- A				TIN COATED
J733	95S 90- 23- A				TIN COATED
J734	95S 90- 23- A				TIN COATED
J735	95S 90- 23- A				TIN COATED
J736	95S 90- 23- A				TIN COATED
J737	95S 90- 23- A				TIN COATED
J738	95S 90- 23- A				TIN COATED
J739	95S 90- 23- A				TIN COATED
J740	95S 90- 23- A				TIN COATED
J741	95S 90- 23- A				TIN COATED
J742	95S 90- 23- A				TIN COATED
J743	95S 90- 23- A				TIN COATED
J744	95S 90- 23- A				TIN COATED
J745	95S 90- 23- A				TIN COATED
J746	95S 90- 23- A				TIN COATED
J747	95S 90- 23- A				TIN COATED
J748	95S 90- 23- A				TIN COATED
J749	95S 90- 23- A				TIN COATED
J750	95S 90- 23- A				TIN COATED
J751	95S 90- 23- A				TIN COATED
J752	95S 90- 23- A				TIN COATED
J753	95S 90- 23- A				TIN COATED
J754	95S 90- 23- A				TIN COATED
J755	95S 90- 23- A				TIN COATED
J756	95S 90- 23- A				TIN COATED
J757	95S 90- 23- A				TIN COATED
J758	95S 90- 23- A				TIN COATED
J759	95S 90- 23- A				TIN COATED
J760	95S 90- 23- A				TIN COATED
J761	95S 90- 23- A				TIN COATED
J762	95S 90- 23- A				TIN COATED
J763	95S 90- 23- A				TIN COATED
J764	95S 90- 23- A				TIN COATED
J765	95S 90- 23- A				TIN COATED
J766	95S 90- 23- A				TIN COATED
J832	95S 90- 23- A				TIN COATED
L501		73C 253- 37-			50UH
L502		73C 253- 32-			5.6UH 3A
L504		93C 147- 26-			8.2UH +/−15%
L505		94A 483- 21-			WIDTH COIL

APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
L507		73A 253- 42-			5.4MH 800MA
L601			73C 173- 1-	73C 173- 1-	25 MH
L602			73C 173- 2-		3MH
L621		73C 259- 1-			10UH +/−15%
L661		73C 259- 4-			200UH +/−5%
L662		73C 259- 3-			100UH +/−10%
L682		73C 259- 4-			200UH +/−5%
L683		73C 259- 2-			30UH +/−15%
LC401		53A 40- 1-			022UF +50−20 50V 7A
N001		50B 13- 1-			PLASTIC TIE
N001		50T 106- 1-			CABLE TIE
P401		33T3072- 2-			6P PLUG PLASTIC
P500		33T3074- 5-			6P PLUG
P502		33T3072- 8-			4P PLUG PLASTIC
P503		33T3074- 1-			2P PLUG
P601		33A3355- 1-			2 PIN PLUG
P602		33T3074- 1-			2P PLUG
P603		33A3355- 1-			2 PIN PLUG
P604		33A3355- 1-			2 PIN PLUG
P605		33T3072- 12-			3P PLUG PLASTIC
Q2001		57A 420- Q-			TRANSISTOR
Q2002		57B 419- Q-			TRANSISTOR
Q401		57B 419- Q-			TRANSISTOR
Q402		57A 549- 1-			TRANSISTOR
Q403		57A 507- L-			TRANSISTOR
Q404		57B 419- Q-			TRANSISTOR
Q405		57A 553- 1-			TRANSISTOR
Q460		57A 420- Q-			TRANSISTOR
Q501		57B 419- Q-			TRANSISTOR
Q502		57A 521- C-			TRANSISTOR
Q503		57A 551- 1-			TRANSISTOR
Q504		57B 419- Q-			TRANSISTOR
Q551		57A 552- P-			TRANSISTOR
Q551		57A 552- Q-			TRANSISTOR
Q552		57B 419- Q-			TRANSISTOR
Q554		57A 554- 1-			TRANSISTOR
Q557		57A 554- 3-			TRANSISTOR
Q558		57A 554- 3-			TRANSISTOR
Q621		57A 560- 1-			TRANSISTOR
Q621		57A 573- 1-			TRANSISTOR
Q622		57A 446- 1-			TRANSISTOR
Q641		57A 423- 8T-			TRANSISTOR
Q661		57A 560- 1-			TRANSISTOR
Q661		57A 573- 1-			TRANSISTOR
Q662		57A 507- 1-			TRANSISTOR
Q662		57A 507- 2-			TRANSISTOR
Q663		57A 446- 1-			TRANSISTOR
Q664		57B 419- P-			TRANSISTOR
Q665		57A 446- 1-			TRANSISTOR
Q681		57B 419- P-			TRANSISTOR
R2001	61S 172-229-52T				2.2 OHM +−5% 1/4W
R2002	61S 172-682-52T				6.8K OHM 5% 1/4W
R2004	61A 602-682-52T				3.8K OHM 5% 1/6W
R2005	61A 602-222-52T				2K2 OHM 5% 1/6W
R2006	61A 602-103-52T				10K OHM 5% 1/6W

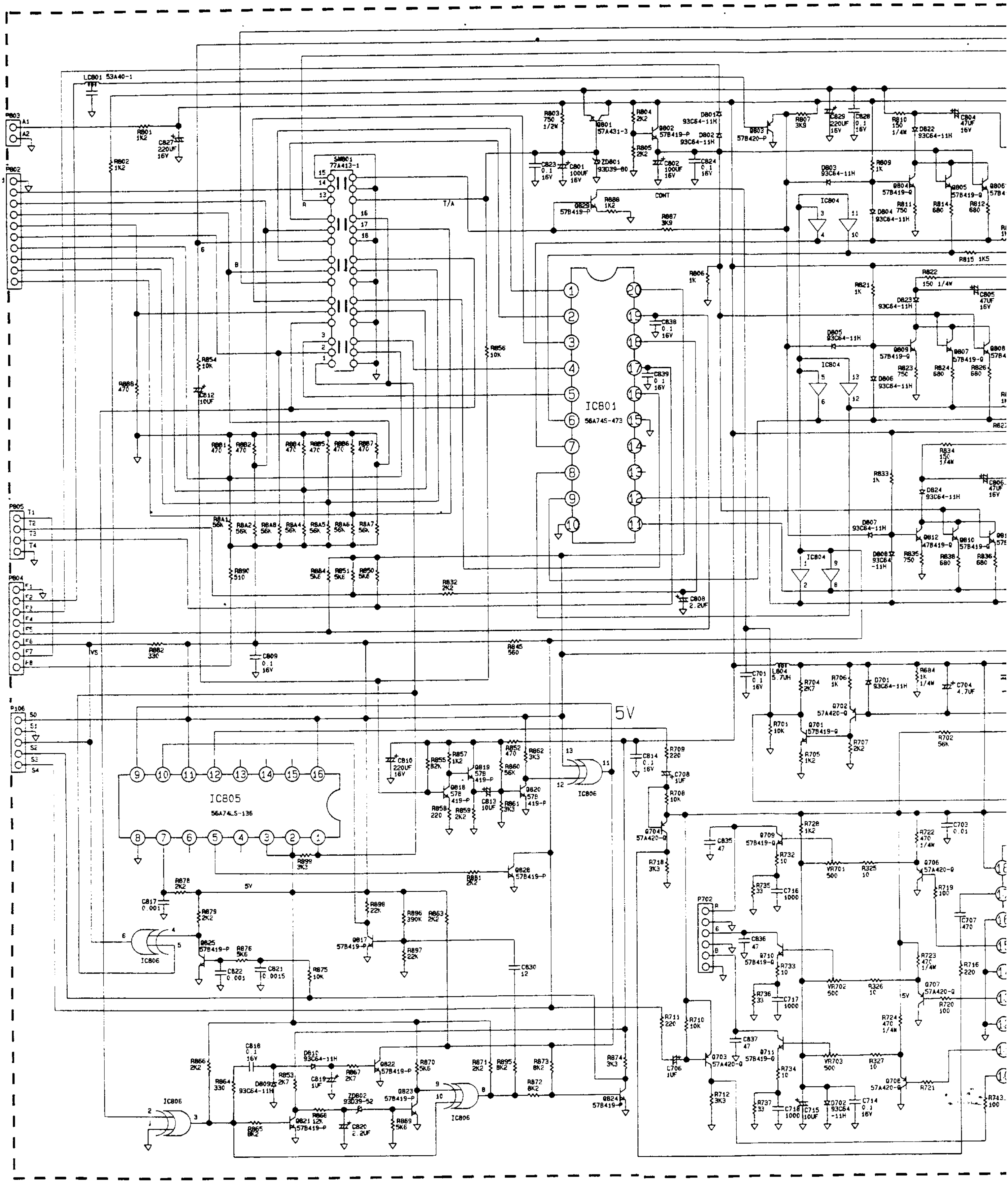
APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
R2007	61S 172-229-52T				2.2 OHM +-5% 1/4W
R2008	61A 602-682-52T				6.8K OHM 5% 1/6W
R2009	61A 602-222-52T				2.2K OHM 5% 1/6W
R2010	61A 602-103-52T				10K OHM 5% 1/6W
R2011	61A 602-123-52T				12K OHM 5% 1/6W
R401		61S152M-221- 64			220 OHM 5% 2W
R402		61A 602-364- 65			360K OHM +/-5% 1/6W
R403		61A 602-563- 65			56K OHM 5% 1/6W
R404		61A 602-473- 65			47K OHM 5% 1/6W
R405		61A 602-331- 65			330 OHM 5% 1/6W
R406		61A 602-561- 65			560 OHM 5% 1/6W
R407		61S152M-189- 64			1.8 OHM +/-5% 2W
R408			61S 175-471- 64	61S 175-471- 64	470 OHM 5% 1/2W
R409	61A 602-472-52T				4.7K OHM 5% 1/6W
R410	61S 602-152-52T				1.5K OHM +-5% 1/6W
R411		61A 602-332- 65			3.3K OHM 5% 1/6W
R412	61A 602-153-52T				15K OHM 5% 1/6W
R413		61S152M-221- 64			220 OHM 5% 2W
R414	61S 172-220-52T				22 OHM 5% 1/4W
R415		61A 602-333- 65			33K OHM 5% 1/6W
R416	61A 602-472-52T				4.7K OHM 5% 1/6W
R417		61A 602-104- 65			100K OHM 5% 1/6W
R418	61A 602-822-52T				8.2K OHM +-5% 1/6W
R419	61S 172-102-52T				1K OHM 5% 1/4W
R420	61S 602-101-52T				100 OHM 5% 1/6W
R421	61A 602-562-52T				5.6K OHM 5% 1/6W
R422	61A 602-223-52T				22K OHM 5% 1/6W
R423		61S 175-151- 64			150 OHM 5% 1/2W
R425		61A 602-183- 65			18K OHM 5% 1/6W
R426	61A 602-222-52T				2.2K OHM +-5% 1/6W
R428	61A 602-223-52T				22K OHM 5% 1/6W
R429	61S 602-101-52T				100 OHM 5% 1/6W
R430	61S 602-101-52T				100 OHM 5% 1/6W
R432		61A 602-824- 65			820K OHM +/-5% 1/6W
R433	61A 602-472-52T				4.7K OHM 5% 1/6W
R460	61A 602-222-52T				2.2K OHM +-5% 1/6W
R461		61A 602-103- 65			10K OHM 5% 1/6W
R462	61S 172-471-52T				470 OHM 5% 1/4W
R463	61A 602-562-52T				5.6K OHM 5% 1/6W
R464	61S 172-471-52T				470 OHM 5% 1/4W
R465		61A 602-203- 65			20K OHM 5% 1/6W
R466	61A 602-184-52T				180K OHM +-5% 1/6W
R467	61A 602-562-52T				5.6K OHM 5% 1/6W
R468	61A 602-562-52T				5.6K OHM 5% 1/6W
R469	61A 602-562-52T				5.6K OHM 5% 1/6W
R470	61A 602-103-52T				10K OHM 5% 1/6W
R471	61A 602-222-52T				2.2K OHM +-5% 1/6W
R472	61A 602-123-52T				12K OHM 5% 1/6W
R473		61A 602-334- 65			330K OHM 5% 1/6W
R474	61A 602-823-52T				82K OHM +-5% 1/6W
R475	61A 602-103-52T				10K OHM 5% 1/6W
R476		61A 602-393- 65			39K OHM 5% 1/6W
R500		61S152M-339- 64			3.3 OHM 5% 2W
R501	61S 602-102-52T				1K OHM 5% 1/6W
R503		61A 602-122- 65			1.2K OHM 5% 1/6W

APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
R504	61A 602-392-52T				3.9K OHM 5% 1/6W
R505	61A 602-223-52T				22K OHM 5% 1/6W
R506	61A 602-123-52T				12K OHM 5% 1/6W
R507	61S 602-102-52T				1K OHM 5% 1/6W
R508	61A 602-223-52T				22K OHM 5% 1/6W
R509	61A 602-823-52T				82K OHM +-5% 1/6W
R510		61A 602-333- 65			33K OHM 5% 1/6W
R511	61A 602-822-52T				8.2K OHM +-5% 1/6W
R512	61S 602-102-52T				1K OHM 5% 1/6W
R513	61A 602-103-52T				10K OHM 5% 1/6W
R514	61S 177-123-52T				12K OHM +-1% 1/4W
R515	61S 177-123-52T				12K OHM +-1% 1/4W
R516	61S 602-102-52T				1K OHM 5% 1/6W
R517		61A 602-471- 65		⚠	470 OHM 5% 1/6W
R518		61S 175-751- 64			750 OHM 5% 1/2W
R519		**61S153M-221-64**			**220 OHM 5% 3W**
R521		61S 175-510- 64			51 OHM 5% 1/2W
R522	61S 172-479-52T				4.7 OHM +-5% 1/4W
R523	61S 172-229-52T				2.2 OHM +-5% 1/4W
R524	61S 175-471-52T				470 OHM +-5% 1/2W
R525		61S 175-331- 64			330 OHM 5% 1/2W
R526		61S 175-759- 64			7.5 OHM +/-5% 1/2W
R527		61S 175-105- 64			1MEG OHM 5% 1/2W
R528		61S 175-105- 64			1MEG OHM 5% 1/2W
R529		61S 175-105- 64			1MEG OHM 5% 1/2W
R530	61A 602-184-52T				180K OHM +-5% 1/6W
R531	61A 602-103-52T				10K OHM 5% 1/6W
R532	61S 602-152-52T				1.5K OHM + - 5% 1/6W
R534	61S 602-102-52T				1K OHM 5% 1/6W
R536		61A 602-105- 65			1M OHM 5% 1/6W
R551	61A 602-103-52T				1M OHM 5% 1/6W
R552	61A 602-103-52T				10K OHM 5% 1/6W
R553		61A 602-124- 65			10K OHM 5% 1/6W
R554	61A 602-472-52T				120K OHM 5% 1/6W
R555	61A 602-823-52T				4.7K OHM 5% 1/6W
R556	61S 177-392-52T				82K OHM +-5% 1/6W
R557	61S 177-273-52T				3.9K OHM +-1% 1/4W
R558	61S 172-103-52T				27K OHM +-1% 1/4W
R559	61S 177-203-52T				10K OHM 5% 1/4W
R560	61S 177-123-52T				20K OHM +-1% 1/4W
R562	61S 177-124-52T				12K OHM +-1% 1/4W
R563	61A 602-153-52T				120K OHM +-1% 1/4W
R564	61S 172-475-52T				15K OHM 5% 1/6W
R565	61S 172-204-52T				4.7M OHM +-1% 1/4W
R566	61S 177-124-52T				200K OHM +-1% 1/4W
R567	61A 602-153-52T				120K OHM +-1% 1/4W
R568	61S 172-475-52T				15K OHM 5% 1/6W
R569	61S 177-124-52T				4.7M OHM +-5% 1/4W
R570	61S 177-134-52T				120K OHM +-1% 1/4W
R571	61A 602-153-52T				130K OHM +-1% 1/4W
R572	61S 172-475-52T				15K OHM 5% 1/6W
R573	61S 177-274-52T				4.7M OHM +-5% 1/4W
R574	61A 602-153-52T				270K OHM +-1% 1/4W
R575	61S 177-561-52T				15K OHM 5% 1/6W
R576	61S 177-683-52T				560 OHM +-1% 1/4W
					68K OHM +-1% 1/4W

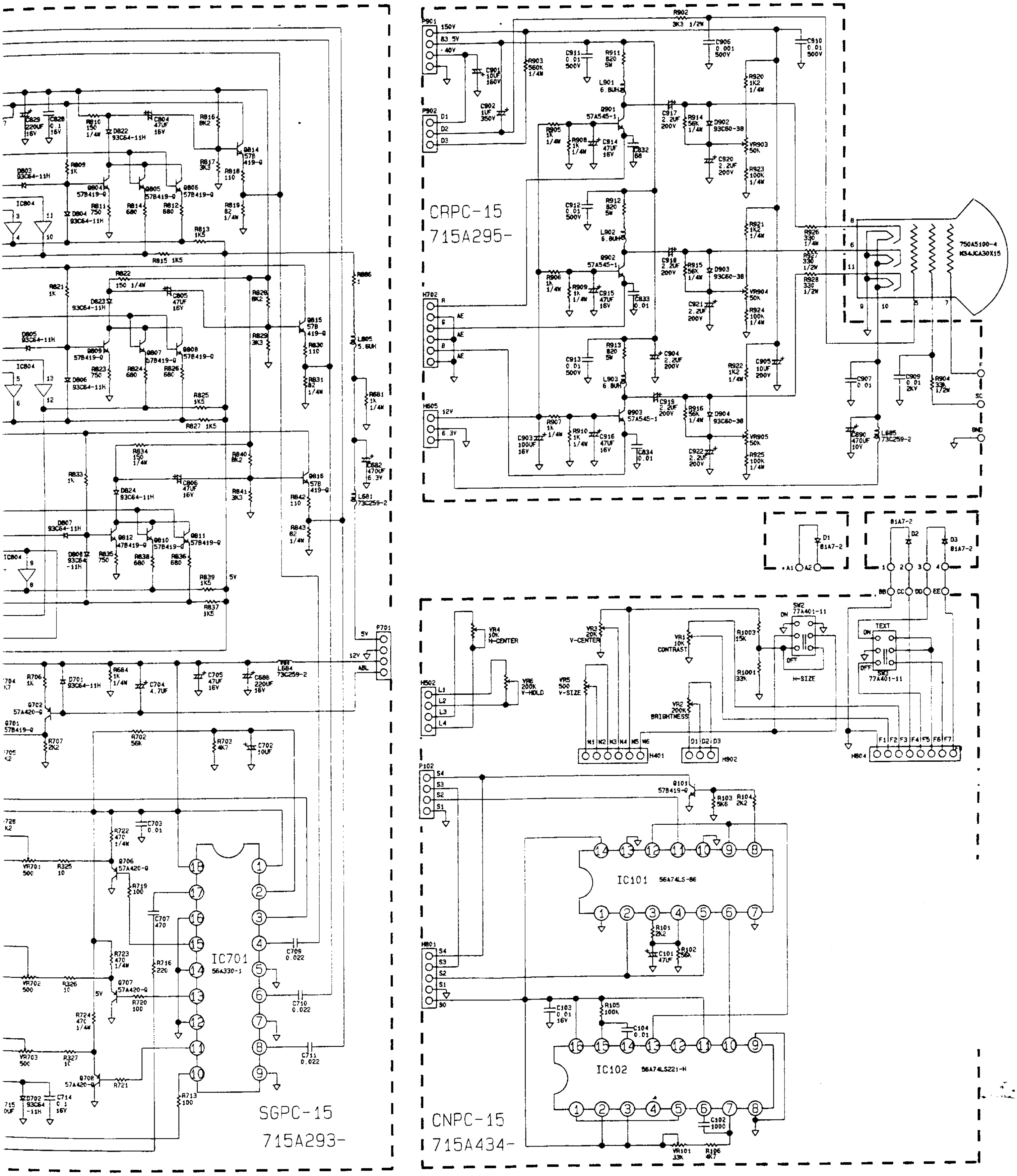
APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
R577	61S 177-124-52T				120K OHM +-1% 1/4W
R578	61S 177-474-52T				470K OHM +-1% 1/4W
R579	61S 177-753-52T				75K OHM +-1% 1/4W
R581	61S 177-104-52T				100K OHM +-1% 1/4W
R582	61S 177-104-52T				100K OHM +-1% 1/4W
R583	61S 177-104-52T				100K OHM +-1% 1/4W
R584	61S 177-473-52T				47K OHM +-1% 1/4W
R587	61S 172-479-52T				4.7 OHM +-5% 1/4W
R588	61A 602-222-52T				2.2K OHM +-5% 1/6W
R589	61A 602-222-52T				2.2K OHM +-5% 1/6W
R590	61A 602-562-52T				5.6K OHM 5% 1/6W
R591	61A 602-682-52T				6.8K OHM 5% 1/6W
R592	61A 602-103-52T				10K OHM 5% 1/6W
R593		61A 602-333- 65			33K OHM 5% 1/6W
R601		61S 175-105- 64			1MEG OHM 5% 1/2W
R602		61D 20-200-			2.4 OHM 5% 10W
R603			61D 52- 16-	61D 52- 16-	18 OHM
R605		61S 20-274-			75 OHM +-5% 10W
R621		61S 175-105- 64			1MEG OHM 5% 1/2W
R622		61A 303-228- 64			0.22 OHM 5% 1W
R623		61D 20-257-			1.2 OHM 5% 5W
R624	61S 172-102-52T				1K OHM 5% 1/4W
R625	61S 172-331-52T				330 OHM 5% 1/4W
R626		61S152M-470- 64			47 OHM 5% 2W
R627	62S 172-121-52T				120 OHM +-5% 1/4W
R628		61S 208-259- 64			2.5 OHM 5% 1W
R629	61S 172-120-52T				12 OHM 5% 1/4W
R631	61S 202-120-52T				12 OHM +-5% 1/4W
R641	61S 172-163-52T				16K OHM +-5% 1/4W
R642		61S152M-103- 64			10K OHM 5% 2W
R644	61S 172-332-52T				3300 OHM 5% 1/4W
R645		61S 208-513- 64			51K OHM 5% 1W
R646	61S 172-103-52T				10K OHM 5% 1/4W
R647	61S 172-222-52T				2.2K OHM 5% 1/4W
R648	61S 172-101-52T				100 OHM 5% 1/4W
R649		61D 20-242-			18K OHM 5% 5W
R661	61S 175-474-52T				470K OHM 5% 1/2W
R662	61S 175-474-52T				470K OHM 5% 1/2W
R663		61A 303-228- 64			0.22 OHM 5% 1W
R664		61D 20-257-			1.2 OHM 5% 5W
R665	61S 172-102-52T				1K OHM 5% 1/4W
R666	61S 172-332-52T				3300 OHM 5% 1/4W
R667	61S 172-102-52T				1K OHM 5% 1/4W
R668	61S 172-151-52T				150 OHM 5% 1/4W
R669	61S 172-332-52T				3300 OHM 5% 1/4W
R670	61S 172-112-52T				1100 OHM 5% 1/4W
R671	61S 172-203-52T				20K OHM 5% 1/4W
R672		61S152M-101- 64			100 OHM 5% 2W
R673	61S 202-820-52T				82 OHM +-5% 1/4W
R674		61S 208-259- 64			2.5 OHM 5% 1W
R676	61S 172-120-52T				12 OHM 5% 1/4W
R677	61S 172-519-52T				5.1 OHM +-5% 1/4W
R678	61S 172-391-52T				390 OHM 5% 1/4W
R679	61S 172-471-52T				470 OHM 5% 1/4W
R682		61S 175-513- 64			51K OHM 5% 1/2W

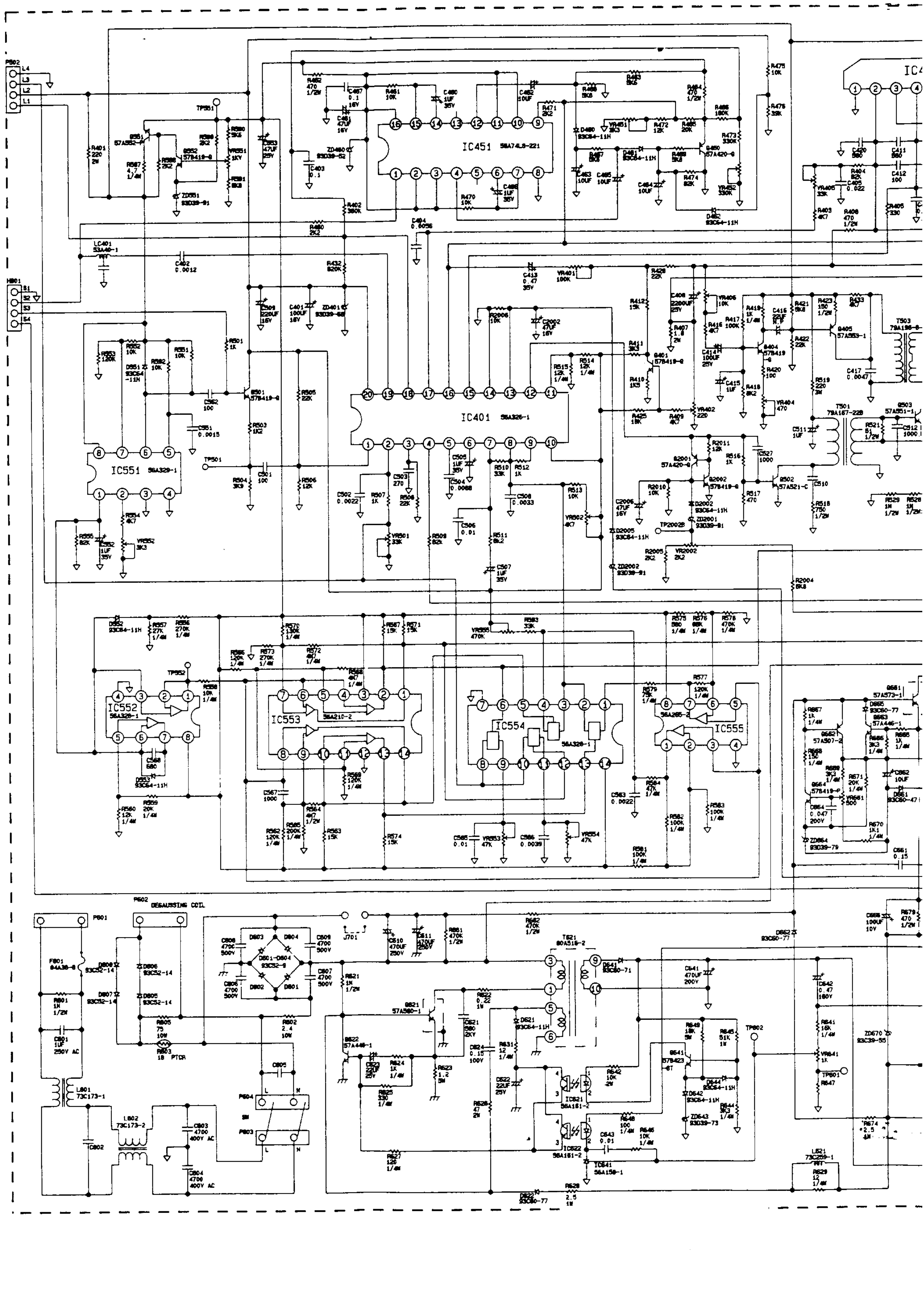
APPL.	CM314-AI	CMPC-15	CMPC-15V	CMPC-15Z	SPECIFICATION
R683	61S 172-103-52T				10K OHM 5% 1/4W
R685	61S 202-820-52T				82 OHM +-5% 1/4W
R686	61S 172-471-52T				470 OHM 5% 1/4W
R690		**61S 208-829- 64**			**8.2 OHM 5% 1W**
T501		79A 167-22B-			LK:380UH MAX.
T502		**79A 328- 1-**			**MULT-SYNC HOT**
T503		79A 196- 8-			LV=460MH +/-5%
T621			**80A 516- 2-**	**80A 516- 2-**	**L (3-1)=6.1MH +/-5%**
T661			**80A 515- 2-**	**80A 515- 2-**	**L (6-5)=3.75MH +/-7%**
VR2002		75A 335-222-			2.2K OHM +-20%
VR2003		75A 335-222-			2.2K OHM +-20%
VR401		75A 335-104-			100KB OHM
VR402		75A 335-221-			220 OHM +-20%
VR403		75A 335-221-			220 OHM +-20%
VR404		75A 335-471-			470 OHM +-20%
VR405		75A 335-333-			33KB OHM
VR406		75A 335-103-			10KB OHM
VR451		75A 335-332-			3K3 OHM
VR452		75A 335-334-			330K OHM
VR470		75A 323-201-			200 OHM +-20%
VR501		75A 335-333-			33KB OHM
VR502		75A 335-472-			4K7 OHM
VR551		75A 335-102-			1KB OHM
VR552		75A 335-332-			3K3 OHM
VR553		75A 335-473-			47K OHM +-20%
VR554		75A 335-473-			47K OHM +-20%
VR555		75A 335-474-			470K OHM +-20%
VR641		**75A 314-102-**			**1K OHM +-20%**
VR661		**75A 323-501-**			**500 OHM +-20%**
ZD2001	93C 39- 91-52T				7.78-8.19V DIODE
ZD2002	**93C 39- 91-52T**				**7.78-8.19V DIODE**
ZD401	93D 39- 68-52T				11.44-12.03V DIODE
ZD402	93C 39- 45-52T				24V +-5% ZENER DIODE
ZD460	93D 39- 52-52T				DIODE
ZD551	93C 39- 91-52T				7.78-8.19V DIODE
ZD643	93D 39- 73-52T				ZENER DIODE
ZD664	93D 39- 79-52T				DIODE
ZD670	93C 39- 55-52T				30V +-5% ZENER DIODE

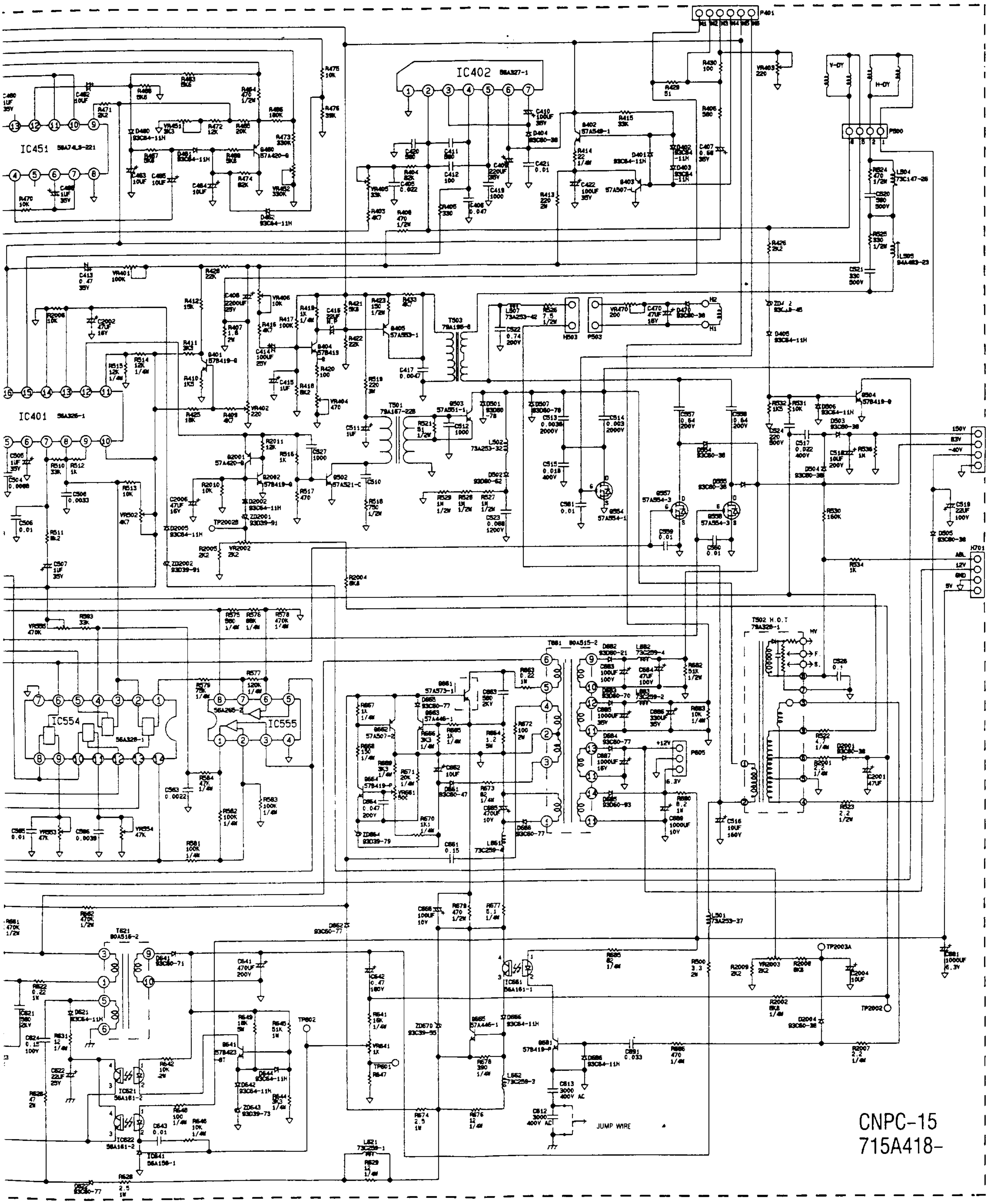
APPLICATION	UL	VDE	SAA	BSI	CSA
Video Adapter 15 pin D to 9 pin D	390683-01	390683-01	390683-01	390683-01	390683-01
Video Adapter 15 pin D to 23 pin D	390682-01	390682-01	390682-01	390682-01	390682-01
Cable, Power	903508-04	903508-01	903508-03	903508-17	903508-04
Manual, users	363369-01	363370-01	363370-01	363370-01	363369-01



P803
A1
A2
P802
P805
T1
T2
T3
T4
P804
F1
F2
F3
F4
F5
F6
F7
F8
P106
S0
S1
S2
S3
S4
LC801 53A40-1
R801 1K2
C827 220UF 16V
R802 1K2
SW801 77A413-1
T/A
R803 750 1/2W
Q801 57A431-3
Q802 57B419-P
R804 2K2
R805 2K2
D801 93C64-11H
D802 93C64-11H
C823 0.1 16V
C801 100UF 16V
ZD801 93D39-80
C802 100UF 16V
C824 0.1 16V
Q829 57B419-P
R888 1K2
CONT
R887 3K9
Q803 57B420-P
R807 3K9
C829 220UF 16V
C828 0.1 16V
R810 150 1/4W
C804 47UF 16V
D822 93C64-11H
D803 93C64-11H
R809 1K
Q804 57B419-Q
Q805 57B419-Q
R811 750
D804 93C64-11H
R814 680
R812 680
IC804
R815 1K5
R806 1K
R822 150 1/4W
R821 1K
D823 93C64-11H
C805 47UF 16V
D805 93C64-11H
Q809 57B419-Q
Q807 57B419-Q
R823 750
R824 680
R826 680
D806 93C64-11H
IC801
56A74S-473
C838 0.1 16V
C839 0.1 16V
R856 10K
R854 10K
C812 10UF
R888 470
R8B1 470
R8B2 470
R8B4 470
R8B5 470
R8B6 470
R8B7 470
R8A1 56K
R8A2 56K
R8A8 56K
R8A4 56K
R8A5 56K
R8A6 56K
R8A7 56K
R890 510
R884 5K6
R851 5K6
R850 5K6
R832 2K2
C808 2.2UF
R833 1K
R834 150 1/4W
C806 47UF 16V
D824 93C64-11H
D807 93C64-11H
Q812 57B419-Q
Q810 57B419-Q
D808 93C64-11H
R835 750
R838 680
R836 680
R882 330
VS
C809 0.1 16V
R845 560
C701 0.1 16V
L804 5.7UH
R704 2K7
R706 1K
D701 93C64-11H
R684 1K 1/4W
C704 4.7UF
Q702 57A420-Q
Q701 57B419-Q
R701 10K
R705 1K2
R707 2K2
R702 56K
5V
IC805
56A74LS-136
C810 220UF 16V
R855 82K
R857 1K2
Q819 57B419-P
R852 470
R860 56K
R862 3K3
Q818 57B419-P
R858 220
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C813 10UF
R861 3K3
Q820 57B419-P
IC806
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R709 220
C708 1UF
R708 10K
Q704 57A420-Q
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R899 3K3
R881 2K2
Q828 57B419-P
R878 2K2
C817 0.001
R879 2K2
Q825 57B419-P
R876 5K6
C822 0.001
C821 0.0015
R875 10K
R898 22K
Q817 57B419-P
R896 390K
R863 2K2
R897 22K
C830 12
C835 47
Q709 57B419-Q
R728 1K2
R732 10
VR701 500
R325 10
R722 470 1/4W
C703 0.01
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R735 33
C716 1000
R719 100
P702
C707 470
C836 47
Q710 57B419-Q
R733 10
VR702 500
R326 10
R723 470 1/4W
R716 220
Q707 57A420-Q
R720 100
R736 33
C717 1000
C837 47
Q711 57B419-Q
R734 10
VR703 500
R327 10
R724 470 1/4W
Q708 57A420-Q
R721
R743 100
R737 33
C718 1000
C715 10UF
D702 93C64-11H
C714 0.1 16V
R711 220
R710 10K
C706 1UF
Q703 57A420-Q
R712 3K3
C818 0.1 16V
D810 93C64-11H
R867 2K7
Q822 57B419-P
R870 5K6
R866 2K2
R853 2K7
R864 330
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R895 8K2
R873 8K2
R872 8K2
R874 3K3
Q824 57B419-P
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R869 5K6


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IC102


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IC622 56A161-2
IC641 56A158-1
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T501 79A167-22B
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L802 73C173-2
L621 73C259-1
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P803
J701


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IC401 56A326-1
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T621 80A515-2
Y-DY
H-DY
P500
H503
P503
P605
H701
150V
83V
-40V
ABL
12V
GND
5V
HV
+12V
6.3V
JUMP WIRE
CNPC-15
715A418-